



استراتژی مدیریت قرارداد

پیکره دانش مدیریت قرارداد (Contract Management Body of Knowledge)

بخش چهارم: شایستگی‌های مدیریتی در مدیریت قرارداد

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What we will learn?

☐ Management competency

- ❖ Introduction
- ❖ Business management
- ❖ Change management
- ❖ Financial management
- ❖ Project management
- ❖ Risk management
- ❖ Supply chain management

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Successful contract management

Per ANSI/NCMA ASD 1-2019 (R2022) (see [Annex](#)):

Successful contract management demands:

- Leadership proficiency through the cumulative effect of competence, character, collaboration, emotional intelligence, and vision;
- • Specialized management skill, acumen, and judgment in such areas as business management, change management, financial management, project management, risk management, and supply chain management; and
- Continuous, lifelong learning to advance individual competence and organizational capability.

The CMBOK structure

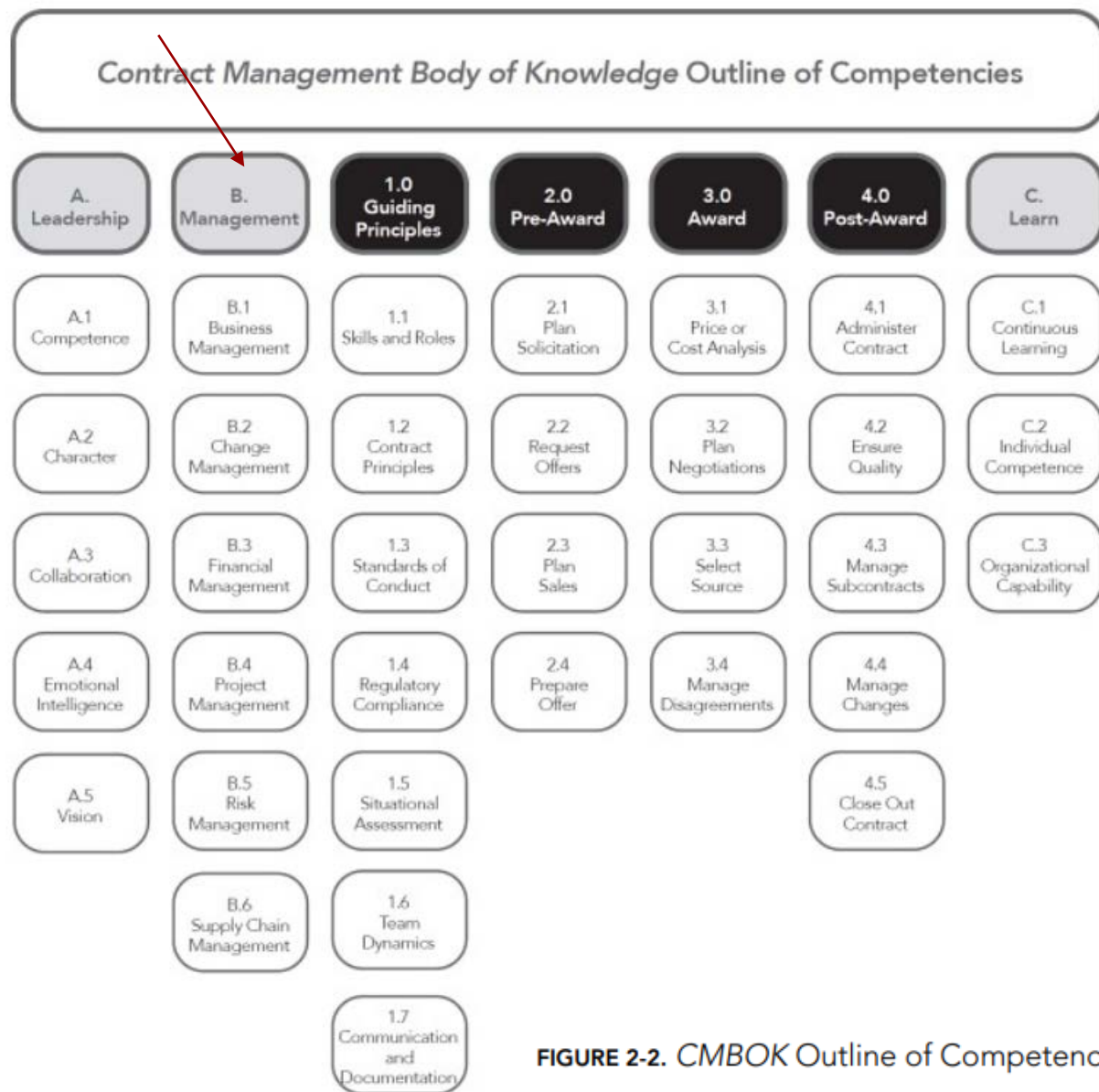


FIGURE 2-2. CMBOK Outline of Competencies

Financial management process

1. Estimating, budgeting, and controlling costs
2. Create the work breakdown structure (WBS)
3. The basis of estimate (BOE)
4. The schedule
5. Creating the contract budget
6. Controlling contract costs
7. Data currency
8. Labor
9. Ensuring sufficient budgetary authority is available
10. Creating and using an S-curve
11. Incorporating incremental funding
12. Determining a “funds through” date
13. Where is the finish line?

Create the work breakdown structure (WBS)

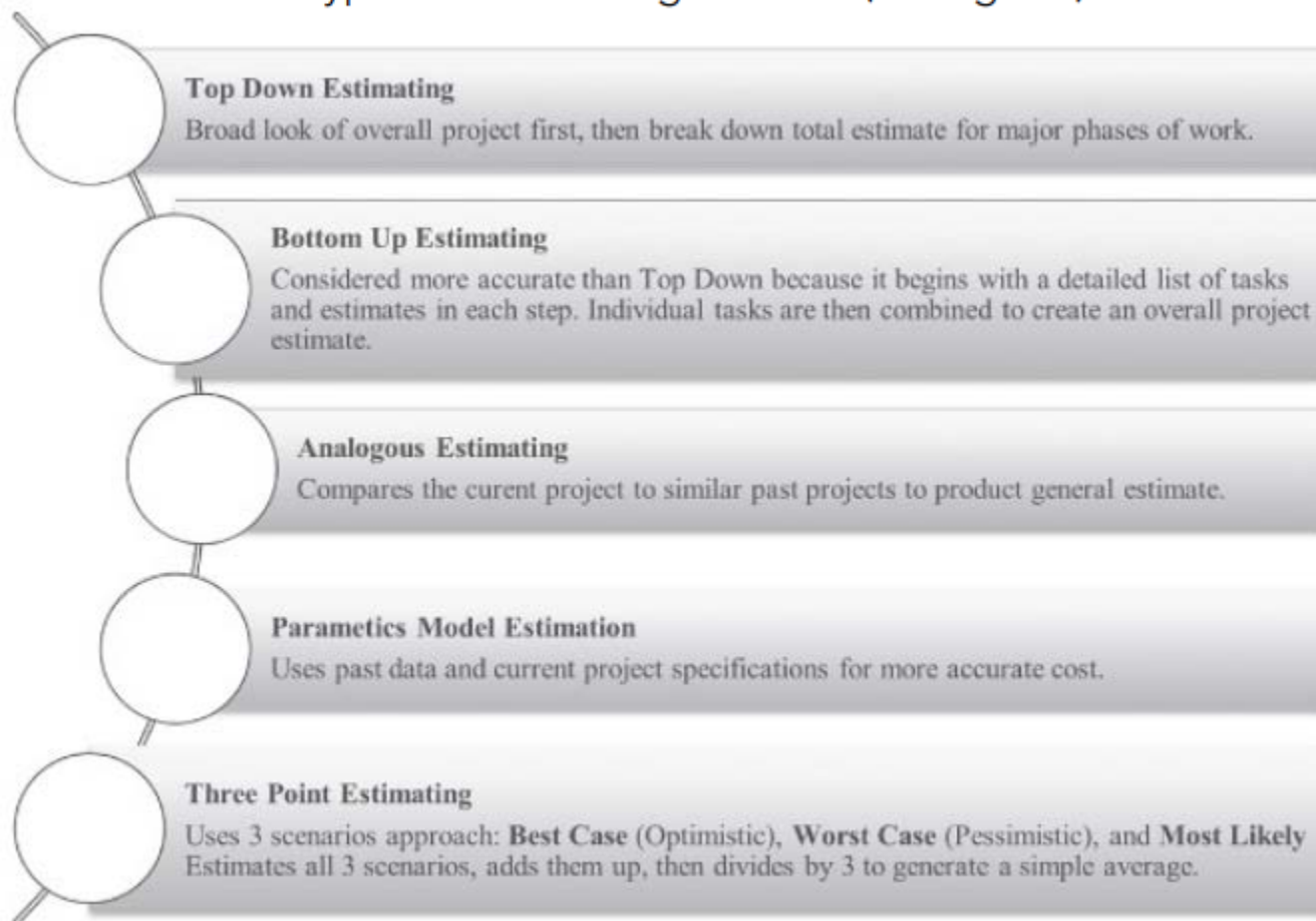
- ❑ The buyer may include a **very top-level WBS** to the seller
which the buyer expects to be **expanded** based on the seller's approach to performing the work.
- ❖ The seller **typically develops (or expands)** the **WBS** to a level
whereby **any further breakdown** would no longer describe outputs
(products)
but would **tend to describe** tasks or processes

The basis of estimate (BOE)

- ☐ The **next step** in the estimating process is to develop a BOE for each work package.
- ☐ The **BOE is a document** that identifies data, procedures, and calculations used to **estimate resources** required to perform a specific task or a group of related tasks.
- ☐ The BOE includes description of
 1. How the work defined in the **solicitation** will be done,
 2. By whom, and
 3. How much effort (work) or material is needed to accomplish the task
- ☐ Various types of BOEs are presented in FIGURE 4- 14.

The basis of estimate (BOE)

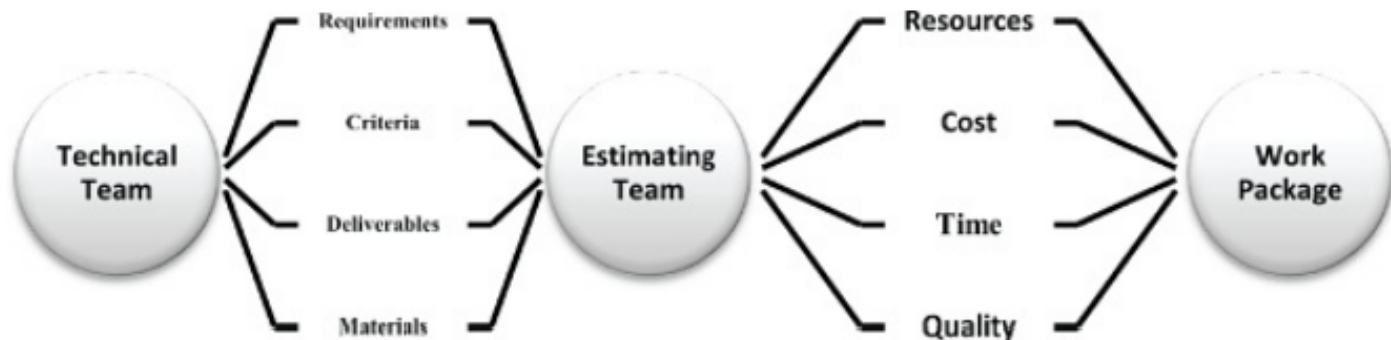
FIGURE 4-14. Types of Estimating for BOE (teamgantt)



The basis of estimate (BOE)

- ❑ BOEs are prepared as a **collaborative effort** between
 1. Technical team (see FIGURE 4-15)—who **determines** the effort and materials required—and
 2. Estimating team who **develops** a compliant cost estimate for **each work package**.

FIGURE 4-15. Technical and Estimating Team Collaboration (contributed by the JTOA Corporation)



What BOE consists of?

The basis of estimate (BOE)

❑ The BOE **consists** of the following elements:

1. **A description of the work to be accomplished** – best practice is an excerpt from or linked to a specific requirement or set of requirements in the solicitation / statement of work. Each BOE should be traceable to the requirements and to the associated WBS element.
2. **A (narrative) description** of how the requirement will be fulfilled including what, when, and how it will be done.
3. **A listing of the resources required** in terms of type (labor, material, cost), quantity, rate, and total cost.
4. **A rationale describing the method** used to estimate the resources and time required to accomplish the work.

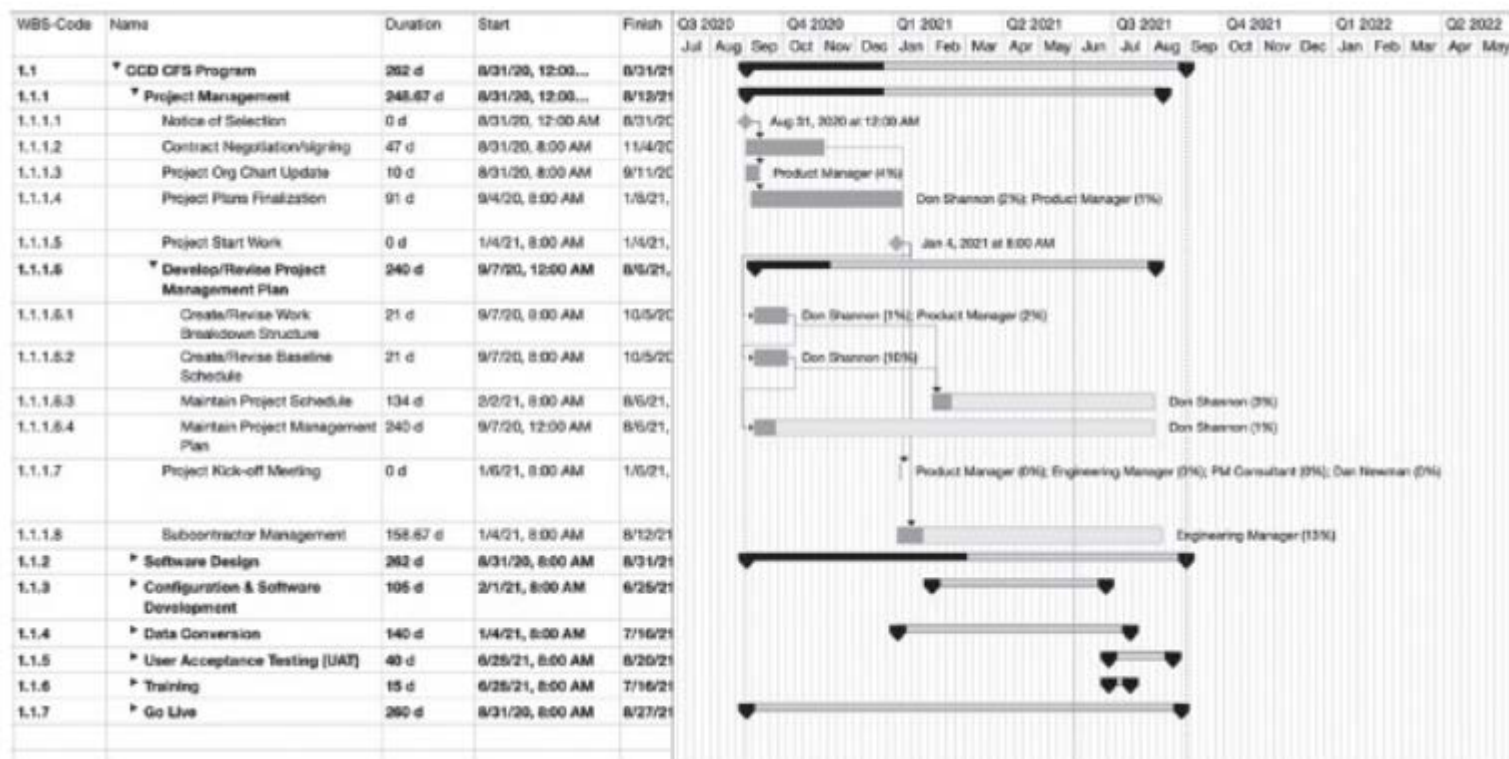
The schedule

- ❑ In conjunction with the BOE process,
the technical team creates a **schedule** that decomposes the **work packages**
(aligned with the BOEs) and
then into **supporting tasks**.
- ❑ These tasks are **then sequenced** into a logical order with attention given to predecessor successor relationships (i.e., tasks that must be complete before others can commence).

The schedule

- ☐ In the next step the technical team **assigns resources** to each task (as per the BOEs) with respect to labor (hours and specialty), subcontracts, and materials.
- ☐ This then produces a resource-loaded schedule that associates the costs (material and labor) identified in the BOE with
 1. Associated work package
 2. Timing in the schedule
- ☐ In doing so, the scheduling software producing a document that identifies
 1. What will be done
 2. When it will be done
 3. What resources or costs will be associated with that work

FIGURE 4-16. Sample Gantt Chart with Resources



Creating the contract budget

- ☐ The **total estimated cost** for performing the contract—
be that a fixed price or cost-reimbursement—
is (as stated above) calculated as a part of the “**Prepare Offer**”
activity during pre-award.
- ☐ Therefore, the **overall cost is known** (or should be known) at the time the contract is
awarded.

Creating the contract budget

❑ The **most common approach** is for the **project manager** to

distribute funds based on

1. BOEs and
2. Cost or pricing data used during the proposal

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Creating the contract budget

- ❑ One simple budgeting method—albeit naïve—is to simply “spread” the contract value over time in some sort of level-loading scheme. This technique, called spreading (or peanut buttering) is the lowest common denominator approach. It is easy to implement but fails to consider project phases and ignores the tendency for programs to “ramp-up” or “tail off” in activity at the beginning or end of the project. Thus projections made using this approach may be inaccurate.

Read it yourself!

Creating the contract budget

- ❑ Another technique contract managers or project managers rely on is using so-called “burn rates” for budgeting purposes. Burn rates are an average of the estimated costs per month, often based on staffing estimates (i.e., headcount or full-time equivalent workers), and may not vary over time. While this technique is not wrong, it is subject to several variables that can lead to inaccurate projections, not unlike the peanut butter method, and this is especially true should the project ramp up or down, be organized into phases, or include subcontractors or material purchases.

Read it yourself!

Creating the contract budget

- Therefore, a more accurate and preferred approach is to **estimate the contract expenses** over time based on the resource-loaded project schedule or other planning documents into a time-phased (e.g. monthly or quarterly) estimate.

contract line item number (CLIN)

The supplies or services to be delivered under the contract. The CLIN structure and description can have a significant impact on both the buyer and the contractor. CLINs can be based on the work breakdown structure (WBS). To effectively determine exactly what the buyer requires and to create a means to monitor the contractor's work progress, the WBS should be used to design the CLINs to match this structure.

Creating the contract budget

- ❑ The **steps** in the estimate review and budget creation process include:
 1. Reviewing the work breakdown structure (see below) for completeness and alignment with the contract requirements.
 2. Reviewing and updating the project schedule to adjust for contract award date and negotiated delivery dates if applicable.
 3. Working with the accounting department to open account codes (charge numbers) mapped to the WBS and the period of performance/project schedule.
 4. Produce a time phased budget typically aligned with the WBS, the Contract Line Item Number (CLIN) structure, or organization/department.
 5. Obtain management approval and authority to 'baseline' and/or distribute the budget to either departments or cost account managers depending on the organization and if they use an earned value management system.

Creating the contract budget

- ❑ The **result of this step** is each department or function associated with a project is **apportioned (distributed)**

a **given amount per accounting period** (or possibly a lump sum)

that is **then spent by them** to do the work.

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Creating the contract budget

- ❑ Ultimately the baseline budget is loaded into the **accounting system**— usually
 1. Aligned with the WBS or CLIN structure (or both) and
 2. Apportioned on a time-phased basis by department or cost center.

- ❑ It thus becomes a **management tool** that establishes the planned performance in **terms of dollars and cents.**

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Creating the contract budget

- ❑ This **budget information** is essential for tracking program performance.
- ❑ A best practice is to establish **accounting codes (e.g., charge numbers)** **aligned** with the WBS and then **load the associated budgets** for each WBS element into the accounting system.
 - ❖ This supports tracking variances to the budget across the program and makes it obvious where **overruns or problems occur**.

Controlling contract costs

- ☐ **Tracking contract costs** begins with the award of a contract.
- ☐ As stated before, accounting codes for the **new contract** should be created immediately to
allow the technical team members (e.g., program managers, engineers) and others to **begin charging** to them.

How to accelerate this process?

Controlling contract costs

- ❑ To **accelerate the process** of conducting a contract kickoff meeting with the accounting team,

project managers should meet with the financial manager with a copy of

1. WBS,
2. Project schedule,
3. Cost estimates from their proposals

How to arrange account codes?

Controlling contract costs

1. **Small projects** are typically monitored at a high level.
 2. **More complex programs** require multiple levels of account codes arranged in a hierarchical structure.
- ☐ Additionally, account codes are identified as
1. “Labor” only,
 2. “Labor + Materials,” or
 3. “Labor + Materials + Other Direct Costs,”
- since **each accounting category** had separate overhead burdens and needed to be segregated accordingly.

Controlling contract costs

☐ By and large, the accounting codes should be set up to capture data at

1. Work package level or
2. WBS level

where performance is to be monitored.

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Controlling contract costs

FIGURE 4-17. Typical Account Code Sample

Contract FA9421-15-C-1234 Account Set-up

Project Number: 15A0096 (Roll-up)

15A0096-1 Engineering

15A0096-1-1 System Engineering (Roll-up)

15A0096-1-1-1 Preliminary Design Baseline (Roll-up)

15A0096-1-1-1-1 Systems Engineer, Labor

15A0096-1-1-1-2 Electrical Engineer, Labor

15A0096-1-1-1-3 Mechanical Engineer, Labor

15A0096-1-1-1-4 Engineering Subcontractor, ODC

15A0096-1-1-1-5 Travel and ODC

15A0096-1-1-1-6 Materials

15A0096-1-1-2 Critical Design Baseline (Roll-up)

15A0096-1-1-2-1 Systems Engineer, Labor

15A0096-1-1-2-2 Electrical Engineer, Labor

15A0096-1-1-2-3 Mechanical Engineer, Labor

15A0096-1-1-2-4 Engineering Subcontractor, ODC

15A0096-1-1-2-5 Travel and ODC

15A0096-1-1-2-6 Materials

Is it only important for project performance?

Controlling contract costs

- ❑ **Proper accounting** for expenditures is not only essential to tracking the project's performance,
but also the law.

What managers must closely monitor?

Controlling contract costs

❑ **Mischarging work** to the wrong contract is a serious offense, so **managers** must **closely monitor** the following:

1. The work performed (labor hours),
2. Who is performing the work (or charging the account), and
3. What miscellaneous charges are being made for travel, materials, etc.

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Controlling contract costs

❑ **Accounting data** is reported on a **periodic basis** to managers for analysis and control.

1. Part of this process is a **review by management** to ensure costs (such as timesheet data) is properly recorded in the **appropriate account**.
2. This also includes a **review** of labor hours allocated to
 - ❖ Individuals or teams vs
 - ❖ The number of hours reported
 - ✓ Although hours and dollars are related,
a good manager **examines both**.

Let's see how to perform financial control?

Controlling contract costs

- ☐ Financial control is the **process** of comparing
 1. Predicted costs or hours (budget) to
 2. Actual values

- ☐ There are **several strategies** used by businesses to accomplish this.

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Controlling contract costs

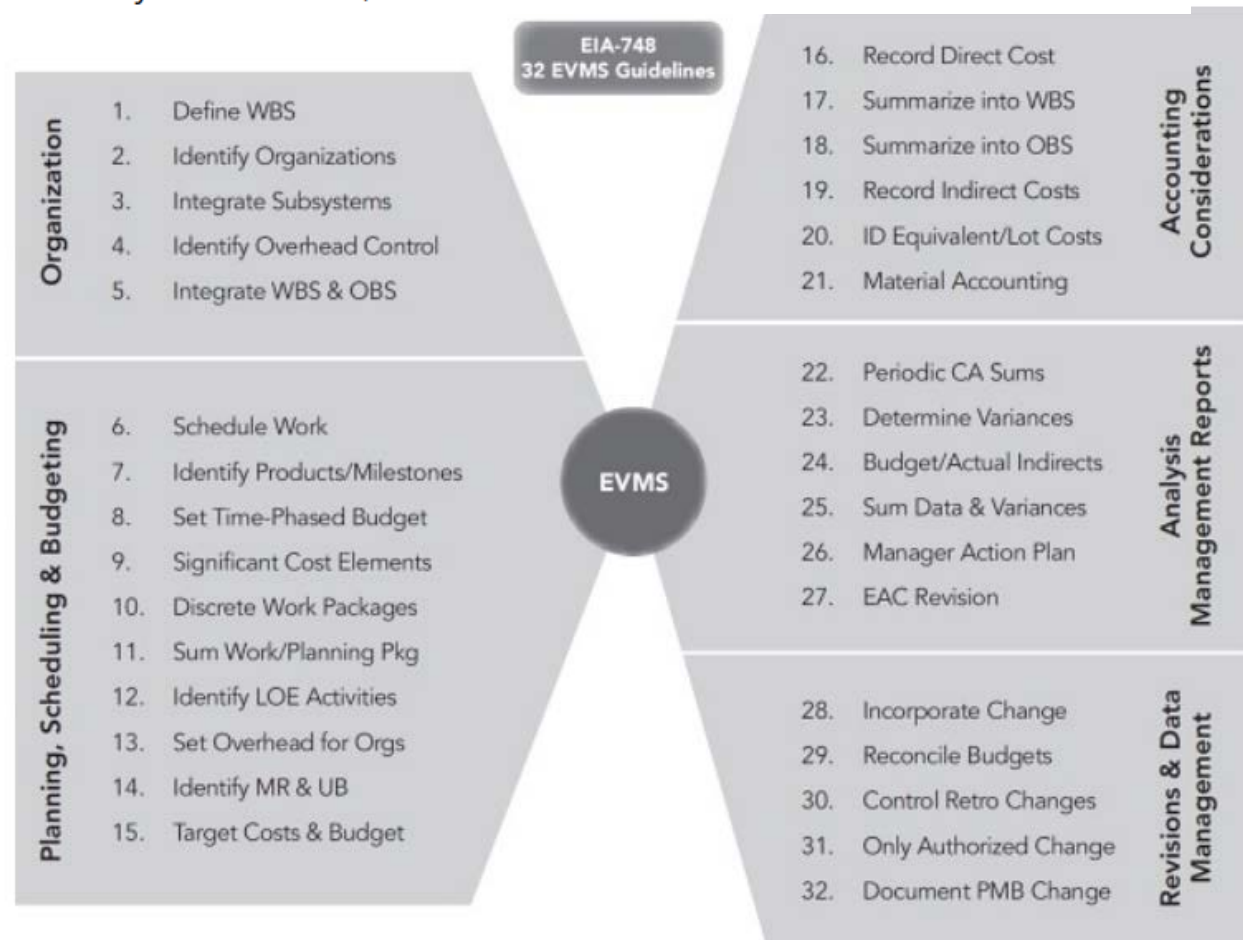
- ❑ The **lowest-level analysis** is called variance analysis and creates a value by subtracting the actual cost from the budgeted amount.
- ❖ Variances can be calculated and reviewed based on several factors such as time (monthly or quarterly reviews) or significance.

Consequently, variance analysis is a better option than simply identifying variances.

The analysis seeks to explain why the variance occurred.

Controlling contract costs

FIGURE 4-18. EVMS Guidelines (Image credit to the National Defense Industry Association)



undistributed budget (UB)
management reserve (MR)

Controlling contract costs

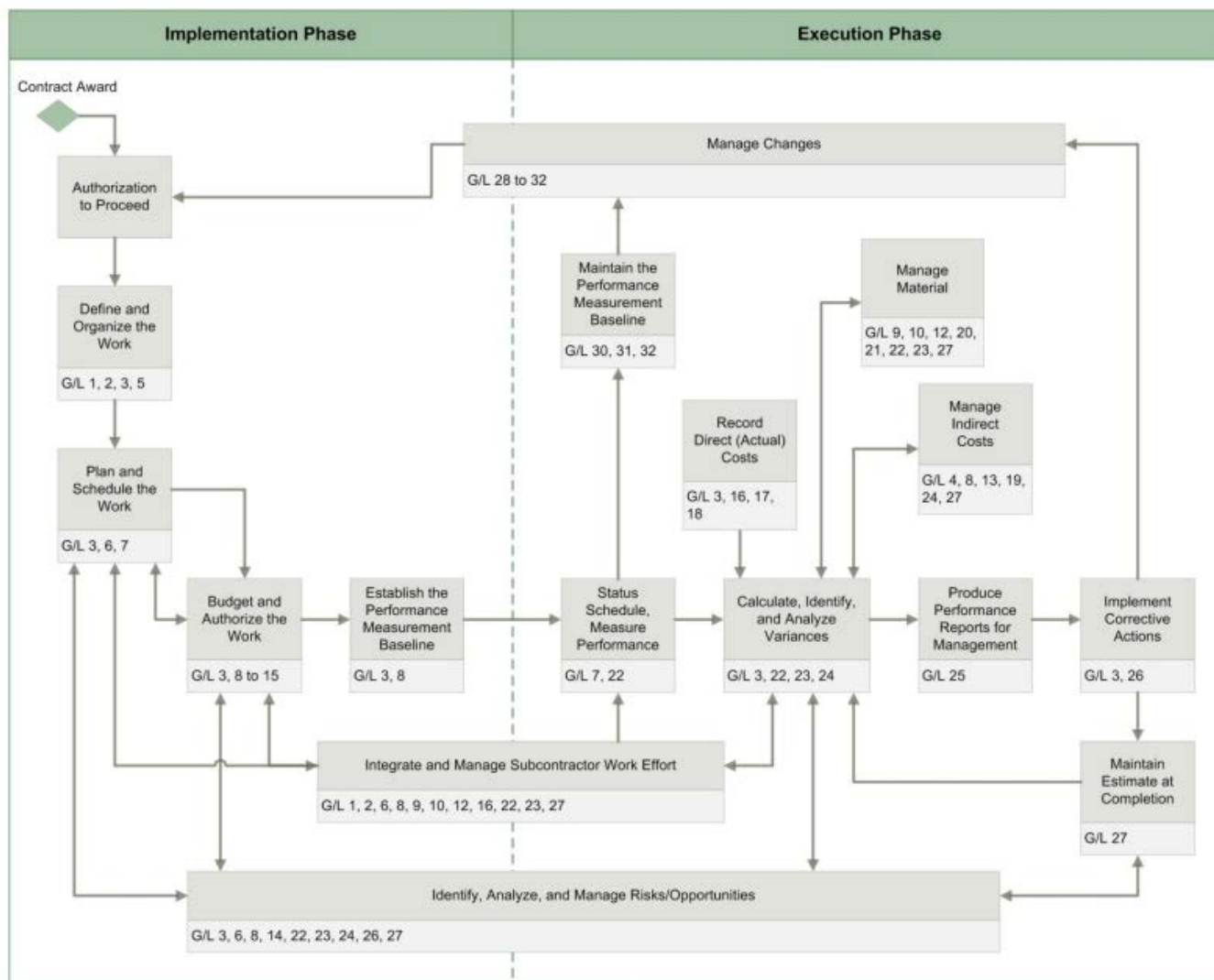
target cost

- Final agreed-upon cost that serves as a basis for computing cost savings in incentive-type contracts.
- The estimated cost of a contract as initially negotiated, adjusted for any change in contract requirements.

❑ EVMS provides richer and more meaningful financial analysis information and allows managers **at all levels** to use EVMS-generated metrics to assess performance both in relation to cost and schedule.

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Controlling contract costs



Data currency

□ While the account setup example provided in FIGURE 4-19 provides the necessary infrastructure to collect costs and associate those costs with the work being done,

there is a **problem** that needs to be addressed — latency.

FIGURE 4-19. Typical Account Code Sample

```
Contract FA9421-15-C-1234 Account Set-up
Project Number: 15A0096 (Roll-up)
15A0096-1 Engineering
    15A0096-1-1 System Engineering (Roll-up)
        15A0096-1-1-1 Preliminary Design Baseline (Roll-up)
            15A0096-1-1-1-1 Systems Engineer, Labor
            15A0096-1-1-1-2 Electrical Engineer, Labor
            15A0096-1-1-1-3 Mechanical Engineer, Labor
            15A0096-1-1-1-4 Engineering Subcontractor, ODC
            15A0096-1-1-1-5 Travel and ODC
            15A0096-1-1-1-6 Materials
        15A0096-1-1-2 Critical Design Baseline (Roll-up)
            15A0096-1-1-2-1 Systems Engineer, Labor
            15A0096-1-1-2-2 Electrical Engineer, Labor
            15A0096-1-1-2-3 Mechanical Engineer, Labor
            15A0096-1-1-2-4 Engineering Subcontractor, ODC
            15A0096-1-1-2-5 Travel and ODC
            15A0096-1-1-2-6 Materials
```

Data currency

- ☐ Latency is the **delay** between
 - ❖ When a cost is incurred and
 - ❖ When that cost appears in the accounting system.
- ☐ Problems arise when **comparing** performance as of one date and costs collected as of another.

This is a common problem with some accounting systems.

How to mitigate the problem?

Data currency

❑ **Some businesses** have implemented semi real-time accounting systems to mitigate the effects of data latency,

but these systems typically have a **caveat concerning** the fact that costs are not final until

the **accounting department** has done an end-of-period (usually monthly) reconciliation and closing process.

What does that mean?

Data currency

- ☐ The latency problem is especially noticeable where **subcontractor or supplier invoices** are concerned.
- ☐ Work accomplished in one **month is typically invoiced the following month** and may **not be paid until the month following** that.
- ☐ Consequently, many managers include “**accrued**” **data** in their reporting using placeholders for known outstanding expenses.
- ☐ Also, pending expenses may be represented by a “**purchase order commitment**” or similar entry to identify funds committed to a supplier via a purchase order but **not actually paid** pending delivery or invoicing.

Data currency

- ☐ Commitments are an acknowledgment that an obligation exists to a supplier or subcontractor and that some or all of those funds are not recoverable.
- ☐ Consequently, the program cannot spend an amount exceeding actual expenses plus open commitments.
- ☐ Many program managers have tried to spend money (a second time) that was already committed, which leads to budget overruns and program failures.
- ☐ Therefore, **when determining when to stop work** on an incrementally funded contract, one must consider both the actual spending and the commitments.

Read it yourself!

- ❑ Correct labor charging is essential:

"Unlike other costs, labor is not supported by external documentation or physical evidence to provide an independent check or balance. The key link in any sound labor time charging system is the individual employee. It is critical to labor charging internal control systems that management indoctrinates employees on their independent responsibility for accurately recording time charges. This is the single most important feature management can emphasize in recognizing its responsibility to owners, creditors, and customers to guard against fraud and waste in the labor charging function. (DCAA 2012)"

- ☐ **Labor hours** are collected using the timecard method where
 1. Employees record their hours worked and
 2. Associate those hours with particular charge codes—
each representing a contract and a **WBS element or work package**.

- ☐ Periodically, the **accounting system** imports the labor hours and **converts** the hours to dollars,
which are then **recorded against** the appropriate project.

When and how to burden the labor rates?

- ☐ This calculation to **“burden”** the raw labor rates is accomplished periodically and the results are then posted to the accounting system.
- ☐ This process may be accomplished weekly, biweekly, or monthly in a “closing” operation.

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Ensuring sufficient budgetary authority is available

- ❑ The **requirements** one may typically encounter include the **following clauses**:
1. The Limitation of Cost clause,
 2. The Limitation of Funds clause (for incrementally funded contracts),
 3. The Limitation of Government's Obligation clause (for incrementally funded fixed-price contracts from the Department of Defense (DoD)), and/or
 4. The Earned Value Management System clause.

The 2 main contract types that DOD uses to acquire its major weapon systems are:

- Cost-type contracts—DOD pays allowable contractor costs (e.g., labor) and risks paying more if costs increase
- Fixed-price-type contracts—DOD pays a fixed price, at which the contractor must deliver the item or service

Let's see how these clauses defined?

Ensuring sufficient budgetary authority is available

- ❑ The first two reporting requirements are defined as follows:

[The] contract Limitation of Cost Clauses (FAR 52.232-20 and 21) and Limitation of Funds Clause (FAR 52.232-22) contain financial reporting requirements for cost-type contracts.... The limitation of cost and funds clauses in cost-type contracts require the contractor to advise the contracting officer in writing whenever the contractor has reason to believe that costs expected to be incurred under the contract in the next 60 days (may vary between 30 and 90 days) when added to all costs previously incurred, will exceed 75 percent (may vary between 75 and 85 percent) of the estimated total contract costs or funds allotted to the contract, respectively. The Limitation of Cost Clause also requires the contractor to notify the contracting officer when there are indications that the total cost for the performance of a contract will be substantially greater or less than the estimated total contract cost.

Ensuring sufficient budgetary authority is available

52.232-20 Limitation of Cost.

As prescribed in [32.706-2\(a\)](#), insert the following clause. The 60-day period may be varied from 30 to 90 days and the 75 percent from 75 to 85 percent. "Task Order" or other appropriate designation may be substituted for "Schedule" wherever that word appears in the clause:

LIMITATION OF COST (APR 1984)

(a) The parties estimate that performance of this contract, exclusive of any fee, will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that-

(1) The costs the Contractor expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of the estimated cost specified in the Schedule; or

(2) The total cost for the performance of this contract, exclusive of any fee, will be either greater or substantially less than had been previously estimated.

(c) As part of the notification, the Contractor shall provide the Contracting Officer a revised estimate of the total cost of performing this contract.

(d) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause-

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of (i) the estimated cost specified in the Schedule or, (ii) if this is a cost-sharing contract, the estimated cost to the Government specified in the Schedule; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of the estimated cost specified in the Schedule, until the Contracting Officer (i) notifies the Contractor in writing that the estimated cost has been increased and (ii) provides a revised estimated total cost of performing this contract. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(e) No notice, communication, or representation in any form other than that specified in paragraph (d)(2) of this clause, or from any person other than the Contracting Officer, shall affect this contract's estimated cost to the Government. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the estimated cost or, if this is a cost-sharing contract, for any costs in excess of the estimated cost to the Government specified in the Schedule, whether those excess costs were incurred during the course of the contract or as a result of termination.

(f) If the estimated cost specified in the Schedule is increased, any costs the Contractor incurs before the increase that are in excess of the previously estimated cost shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice directing that the increase is solely to cover termination or other specified expenses.

(g) Change orders shall not be considered an authorization to exceed the estimated cost to the Government specified in the Schedule, unless they contain a statement increasing the estimated cost.

(h) If this contract is terminated or the estimated cost is not increased, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

(End of clause)



Ensuring sufficient budgetary authority is available

52.232-22 Limitation of Funds.

As prescribed in 32.706-2(b), insert the following clause. The 60-day period may be varied from 30 to 90 days and the 75 percent from 75 to 85 percent. "Task Order" or other appropriate designation may be substituted for "Schedule" wherever that word appears in the clause:

LIMITATION OF FUNDS (APR 1984)

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Schedule specifies the amount presently available for payment by the Government and allotted to this contract, the items covered, the Government's share of the cost if this is a cost-sharing contract, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to the contract up to the full estimated cost to the Government specified in the Schedule, exclusive of any fee. The Contractor agrees to perform, or have performed, work on the contract up to the point at which the total amount paid and payable by the Government under the contract approximates but does not exceed the total amount actually allotted by the Government to the contract.

(c) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the costs it expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of (1) the total amount so far allotted to the contract by the Government or, (2) if this is a cost-sharing contract, the amount then allotted to the contract by the Government plus the Contractor's corresponding share. The notice shall state the estimated amount of additional funds required to continue performance for the period specified in the Schedule.

(d) Sixty days before the end of the period specified in the Schedule, the Contractor shall notify the Contracting Officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the Schedule or otherwise agreed upon, and when the funds will be required.

Read more from:

<https://www.acquisition.gov/far/52.232-22>

Ensuring sufficient budgetary authority is available

- ☐ The **Limitation of Government's Obligation clause (DFAR 252.232- 7007)** is a **less-often-invoked** reporting requirement **applicable only to DOD fixed-price contracts** with incremental funding.

- ☐ The reporting requirement here is as follows:

[T]he contractor will notify the contracting officer in writing at least 90 days prior to the date when, in the contractor's best judgment, the work will reach the point at which the total amount payable by the government, including any cost for **termination for convenience**, will approximate 85 percent of the total amount then allotted to the contract for performance of the applicable item(s).

How about EVM?

Ensuring sufficient budgetary authority is available

- ☐ Reporting under the **Earned Value Management System clause** (DFARS 252.234-7002) can include a number of **mandatory reports**.
- ☐ One report that is often provided is the Contract Funds Status Report.
- ☐ The prescribing language **suggests** the threshold be established at a contract value of \$1 million or more and **exclude fixed-price efforts**.

EVM is discouraged for Firm-Fixed Price (FFP) contracts, except when a FFP contract equal to or greater than \$20M is used for development work. Exception requires business case and Milestone Decision Authority waiver.

 Secretary of the Navy (.mil)
<https://www.secnav.navy.mil/rda/Documents>  

[EVM CONTRACT REQUIREMENTS CHECKLIST - Navy.mil](#)

Ensuring sufficient budgetary authority is available

EARNED VALUE MANAGEMENT SYSTEM (MAY 2011)

(a) *Definitions.* As used in this clause—

“Acceptable earned value management system” means an earned value management system that generally complies with system criteria in paragraph (b) of this clause.

“Earned value management system” means an earned value management system that complies with the earned value management system guidelines in the ANSI/EIA-748.

“Significant deficiency” means a shortcoming in the system that materially affects the ability of officials of the Department of Defense to rely upon information produced by the system that is needed for management purposes.

This report is typically submitted on a DD Form 1586 or in a **contractor-specific format** that provides **equivalent information**.

The **contracting officer** is encouraged to **tailor the reporting requirements** so as to ensure only the **minimum data required** is collected.

What does it require to fulfill these requirements?

Ensuring sufficient budgetary authority is available

- ☐ Fulfilling these requirements will require both
 1. Current and correct accounting data and
 2. Comparing that data to the time-phased program budget

(b) *System criteria.* In the performance of this contract, the Contractor shall use—

(1) An Earned Value Management System (EVMS) that complies with the EVMS guidelines in the American National Standards Institute/Electronic Industries Alliance Standard 748, Earned Value Management Systems (ANSI/EIA-748); and

(2) Management procedures that provide for generation of timely, reliable, and verifiable information for the Contract Performance Report (CPR) and the Integrated Master Schedule (IMS) required by the CPR and IMS data items of this contract.

Read more from:

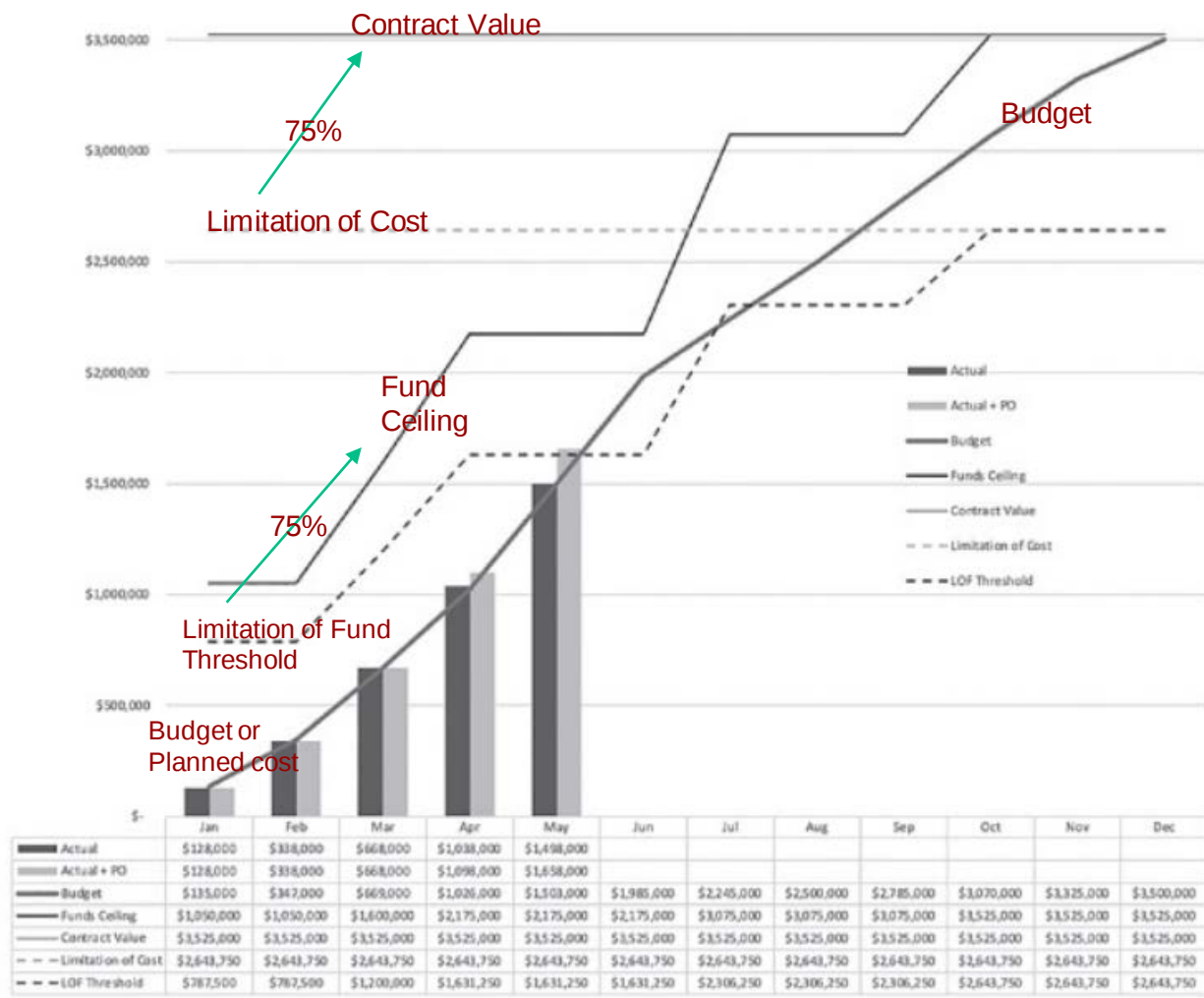
<https://www.acquisition.gov/dfars/252.234-7002-earned-value-management-system>

- ☐ While there are several techniques for doing this comparison, one standard approach is the use of an “S’ Curve.”

Creating and using S-curve

- ❑ The data in FIGURE 4-20 represents the **planned spending** (blue line) by month based on data extracted from the budget.
- ❑ The graph represents the cumulative total (i.e., the sum of the current time period added to the sum of all previous time periods), and produces a distinctive plot as shown in the example.

FIGURE 4-20. Financial Tracking Using an "S" Curve

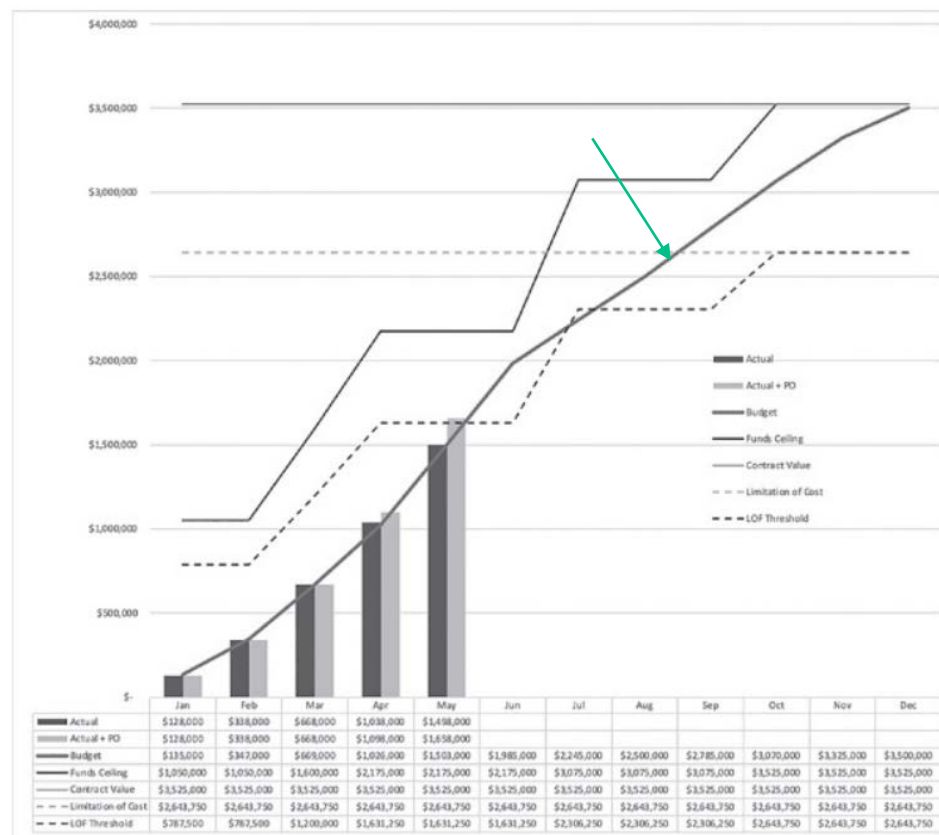


Creating and using S-curve

❑ Note that the heavy line starting at the bottom, left side of the graph (Budget) has distinct ranges:

1. An accelerating sloped beginning,
2. A straight-line region in the middle,
3. A tailing off over the final months.

❑ This leads to the name “S’ Curve” for this type of chart.



Limitation of Cost reporting threshold?

Creating and using S-curve

- ❑ Also presented in this plot is a maximum cost ceiling (the contract value of \$3,525,000) and a dashed blue line representing 75 percent of the maximum contract value at 2,643,750.
- ❑ The 75 percent line represents the FAR 52.232-20 **Limitation of Cost reporting threshold**.
- ❑ Notice of exceeding this value must be provided to the **contracting officer 60 days prior** to achieving it.
- ❑ The spending line crosses the **75 percent** spent threshold in late August or early September,

so the **notice would be provided 60 days** prior (probably June 30).

How to enhance this basic chart?

Creating and using S-curve

❑ This basic chart is enhanced with **additional data** representing

1. Actual expenditures,
2. Purchase order commitments,
3. Etc.

and is typically used in **briefings at periodic management** reviews.

How does it help the contract manager?

Incorporating incremental funding

❑ Annotating the basic “S” Curve with additional information helps the **contract manager**

1. Stay aware of the **funding status** and
2. When to provide **notice** to the contracting officer,
as shown in the example in FIGURE 4-20.

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Determining a “funds through” date

- ☐ **Contract financial management** can often be condensed into a couple of data points.
- ☐ **One** of these is the date **when contract funds** will be expended.

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Determining a “funds through” date

- ❑ On a cost-type contract, that date is when the **contractor must stop work**.
- ❖ Some will argue that a **contractor could continue to work** beyond this date “at their own risk,”

but doing so on a **government prime contract** is **not advised**.

Why?

Determining a “funds through” date

1. Working beyond the stop work date (i.e., “at your own risk”)

places the contractor in a **position where**

there is no certainty that **costs incurred** during a **funding gap**

will be recognized and paid by the buyer.

2. Secondly, the **buyer** typically provides an admonition to contractors stating

the government cannot allow contractors to work beyond their funding limits

since if the **contracting officer knowingly did so**,

contractors could run afoul of the Antideficiency Act

The **Antideficiency Act (ADA)** ([Pub. L. 97–258](#), 96 Stat. 923) is legislation enacted by the [United States Congress](#) to prevent the incurring of obligations or the making of expenditures (outlays) in excess of amounts available in [appropriations](#) or funds. The law was initially enacted in 1884, with major amendments occurring in 1950 (64 Stat. 765) and 1982 (96 Stat. 923). It is now codified at 31 U.S.C. § 1341, § 1342, §§ 1349–1351 and §§ 1511–1519.^[1] The Act was previously enacted as section 3679 of the [Revised Statutes](#).

The ADA prohibits the [U.S. federal government](#) from entering into a contract that is not “fully funded” because doing so would obligate the government in the absence of an appropriation adequate to the needs of the contract. Accordingly, it is often cited during U.S. [government shutdowns](#) as a reason for the closure of certain departments or facilities.

Determining a “funds through” date

- ❑ Consequently, the **government** will not knowingly permit a contractor to **continue** performance

beyond the point where funds are exhausted.

Therefore, determining a “**funds through**” date is essential.

How to determine this date?

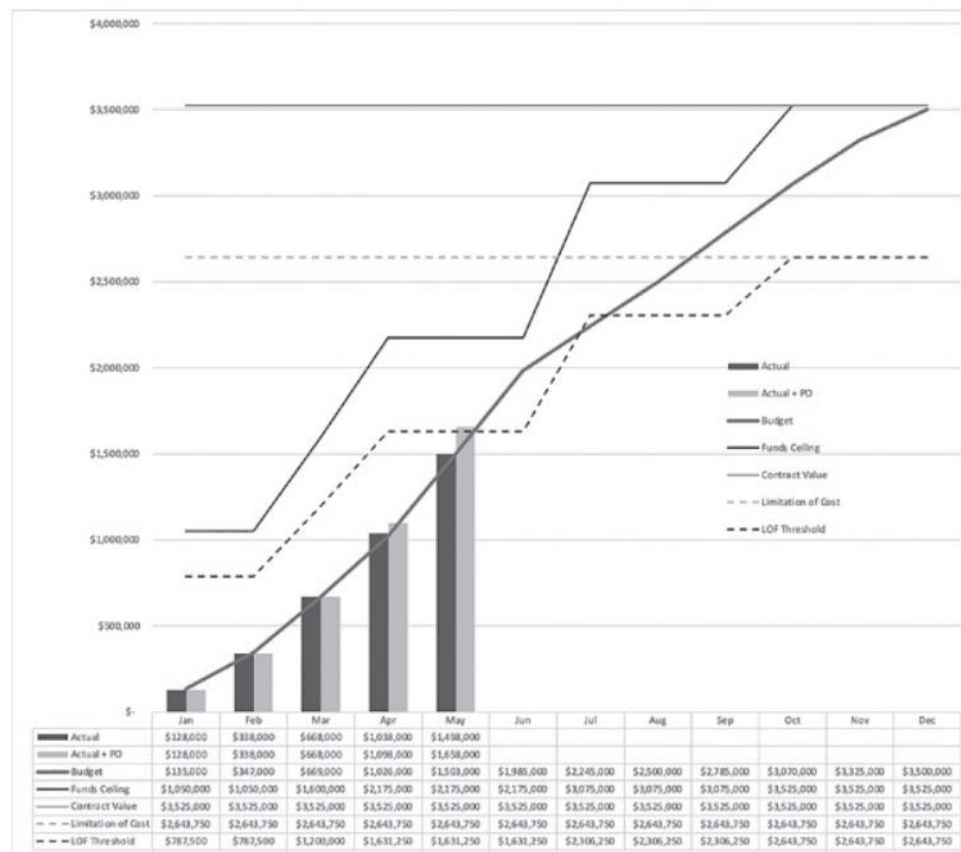
Determining a “funds through” date

- ❑ Determining the funds through date requires **interpreting the data**

used to create the budget and the performance to date.

- ❑ The “S” Curve in FIGURE 4-20 provides a simple and easily interpreted representation of program budget, funding, and performance to date.

FIGURE 4-20. Financial Tracking Using an “S” Curve



Determining a “funds through” date

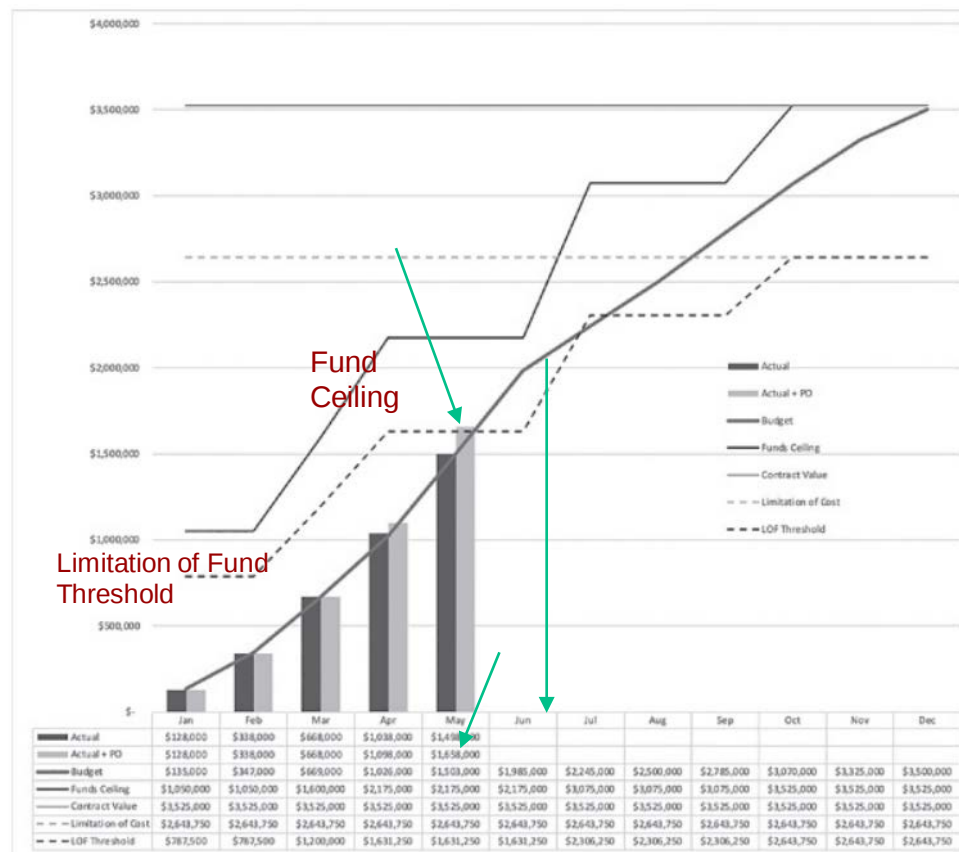
❑ Projected performance can be determined by reviewing the planned **cost (heavy) line** on the chart.

❑ Also, the planned revenue (i.e., **projected cost + fee or the amount invoiced**)

will **cross the funding line** in **mid-May** and

a “**limitation of funds**” notice should have already been sent requesting an **additional increment of funding**.

FIGURE 4-20. Financial Tracking Using an “S” Curve



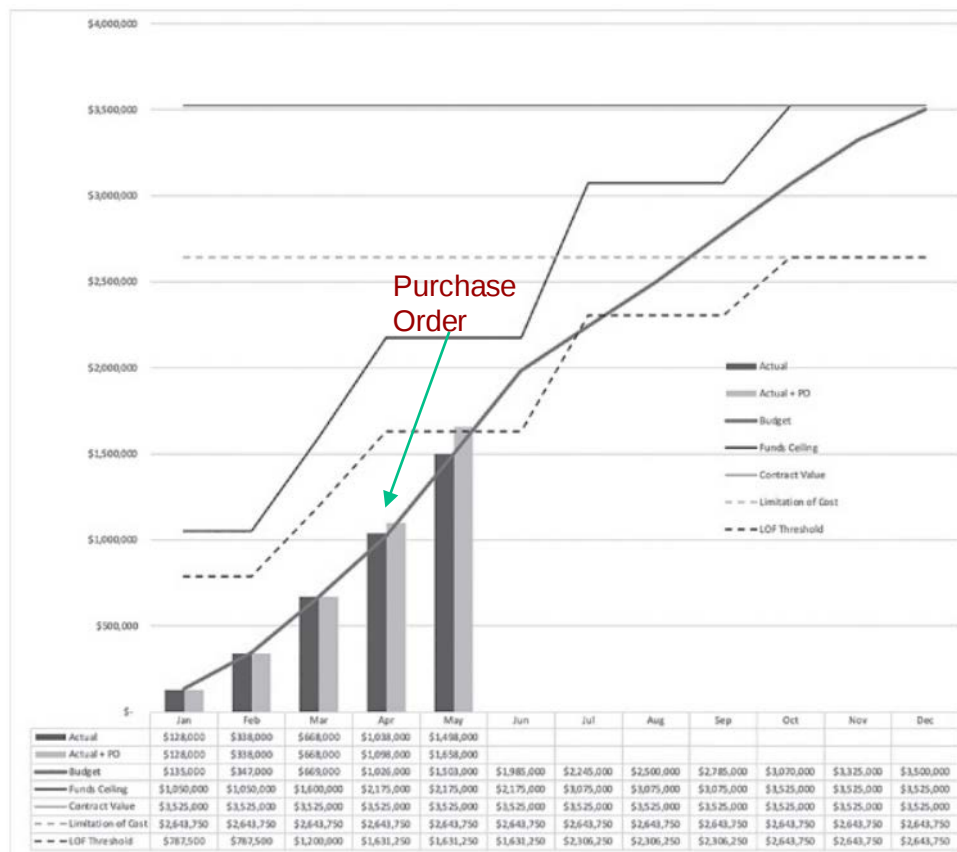
Determining a “funds through” date

❑ The “Cumulative Cost + Purchase Order Commitments” also took a big jump in the month of April.

❖ This reflects the letting of purchase orders or subcontracts for **procurement** of the **prototype materials**.

❑ Due to lead-time considerations, these materials must be **purchased well in advance** of their requirement.

FIGURE 4-20. Financial Tracking Using an “S” Curve

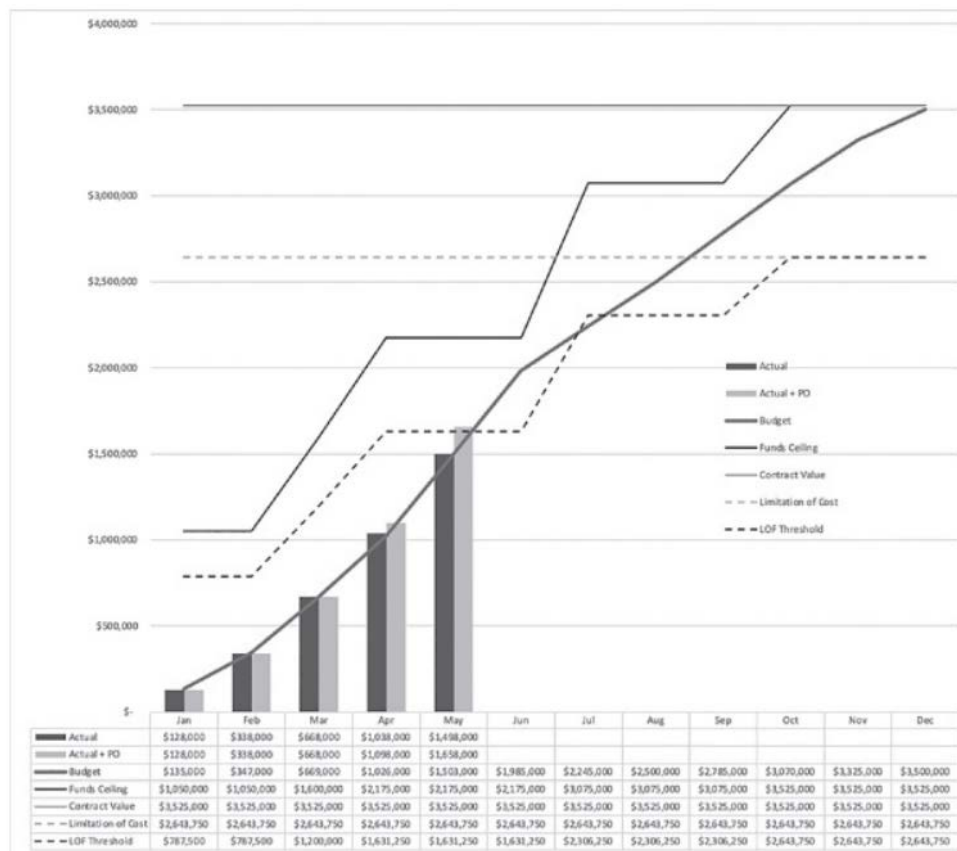


Determining a “funds through” date

- Consequently, the **open commitment** for the value of these purchases will be shown (accrued) from the time of the order to the date when the vendor is paid, whereupon the **amount** is shown as an **actual cost**.

Open commitment date?

FIGURE 4-20. Financial Tracking Using an “S” Curve



Determining a “funds through” date

- ❑ A look at the chart’s underlying data (see FIGURE 4-21) confirms the **existence of one or more open commitments** in April amounting to \$60,000.
- ❑ This is the difference between “Actual Cost” (\$1,038,000) and “Actual Cost + Commitments” (\$1,098,000).

FIGURE 4-21. Chart Data

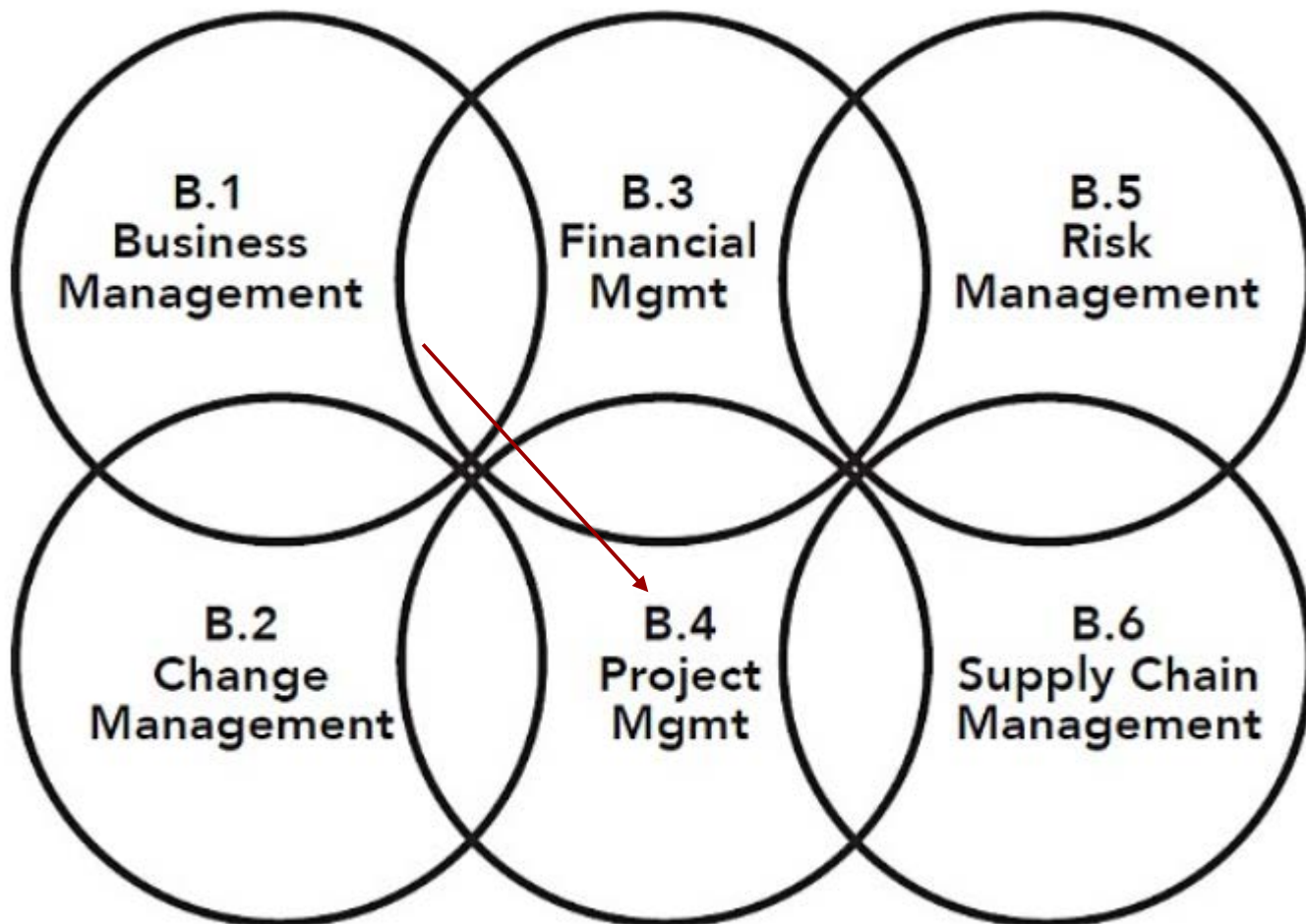
	Jan	Feb	Mar	Apr	May	Jun	Jul
Budget	\$135,000	\$347,000	\$699,000	\$1,026,000	\$1,503,000	\$1,985,000	\$2,245,000
Actual	\$128,000	\$338,000	\$668,000	\$1,038,000	\$1,498,000		
Funds Ceiling	\$1,050,000	\$1,050,000	\$1,600,000	\$2,175,000	\$2,175,000	\$2,175,000	\$3,075,000
Actual + PO	128,000	\$338,000	\$668,000	\$1,098,000	\$1,658,000		
Earned Value	\$132,000	\$344,500	\$665,000	\$1,035,000	\$1,477,000		
SPI (Cum)	0.98	0.99	0.99	1.01	0.98		
CPI (Cum)	1.03	1.02	1.00	1.00	0.99		
SPI	0.98	1.00	1.00	1.04	0.93		
CPI	1.03	1.01	0.97	1.00	0.96		
Cost Variance	\$4,000	\$6,500	(\$3,000)	(\$3,000)	(\$21,000)		
Cumulative Cost Variance	\$4,000	\$10,500	\$7,500	\$4,500	(\$16,500)		
EAC	\$3,572,545	\$3,516,399	\$3,520,053	\$3,481,565	\$3,556,611	\$3,556,611	\$3,556,611
Contract Value	\$3,900,000	\$3,900,000	\$3,900,000	\$3,900,000	\$3,900,000	\$3,900,000	\$3,900,000
Limitation of Cost	\$2,925,000	\$2,925,000	\$2,925,000	\$2,925,000	\$2,925,000	\$2,925,000	\$2,925,000
LOF Threshold	\$787,500	\$787,500	\$1,200,000	\$1,631,250	\$1,631,250	\$1,631,250	\$2,306,250

MANAGEMENT COMPETENCY

(PROJECT MANAGEMENT)

Successful contract management competency

FIGURE 4-3. Management Competencies



Introduction

☐ Successful contract managers understand

1. How projects are developed and executed, and
2. Relationship between contract managers and project managers throughout the contract life cycle.

Difference between their roles?

Introduction

□ While

- ❖ Project managers are responsible for working in **cross-functional teams** to **closely manage new initiatives** from start to finish,
- ❖ Contract managers are responsible for keeping track of **every deadline, deliverable, and other obligations** laid out in an **organization's contracts**.

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Introduction

- ❑ The following section presents **knowledge on project management** and **how it can impact contract managers**.
- ❑ The perspective of this section is from the **buyer's organization** and is applicable to both the government and commercial sectors.
 - ❖ However, contract managers in the **sellers' organizations** should also understand this relationship.
- ❑ This understanding will help to clarify the **roles** of contract managers and project managers, especially when establishing and utilizing **communication channels**.

Introduction

❑ The following areas are presented in this section:

1. Project Management Overview
2. Scope, Objectives, and Benefits of Projects, Programs, and Portfolios
3. Contract Manager and Project Manager Interfaces
4. Causes of Failed Projects and Contract Claims or Disputes
5. Project Management Key Terms, Definitions, and Acronyms

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Introduction

❑ The following areas are presented in this section:

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Project management overview

❑ Projects are typically created because of one or more of the following situations:

- ❖ Customer request
- ❖ Social needs
- ❖ Business needs
- ❖ Market demand
- ❖ Strategic opportunity
- ❖ Legal requirement
- ❖ Technological advances

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Introduction

❑ The following areas are presented in this section:

1. Project Management Overview

2. Scope, Objectives, and Benefits of Projects, Programs, and Portfolios

3. Contract Manager and Project Manager Interfaces

4. Causes of Failed Projects and Contract Claims or Disputes

5. Project Management Key Terms, Definitions, and Acronyms

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Scope, objectives, and benefits of projects, programs, and portfolios

❑ Project Scope.

❖ The **project scope** describes what is included in the project and what is outside or beyond the scope of the requirements.

✓ Often the project scope is a **direct correlation** to a contract's statement of work (Project Smart 2017).

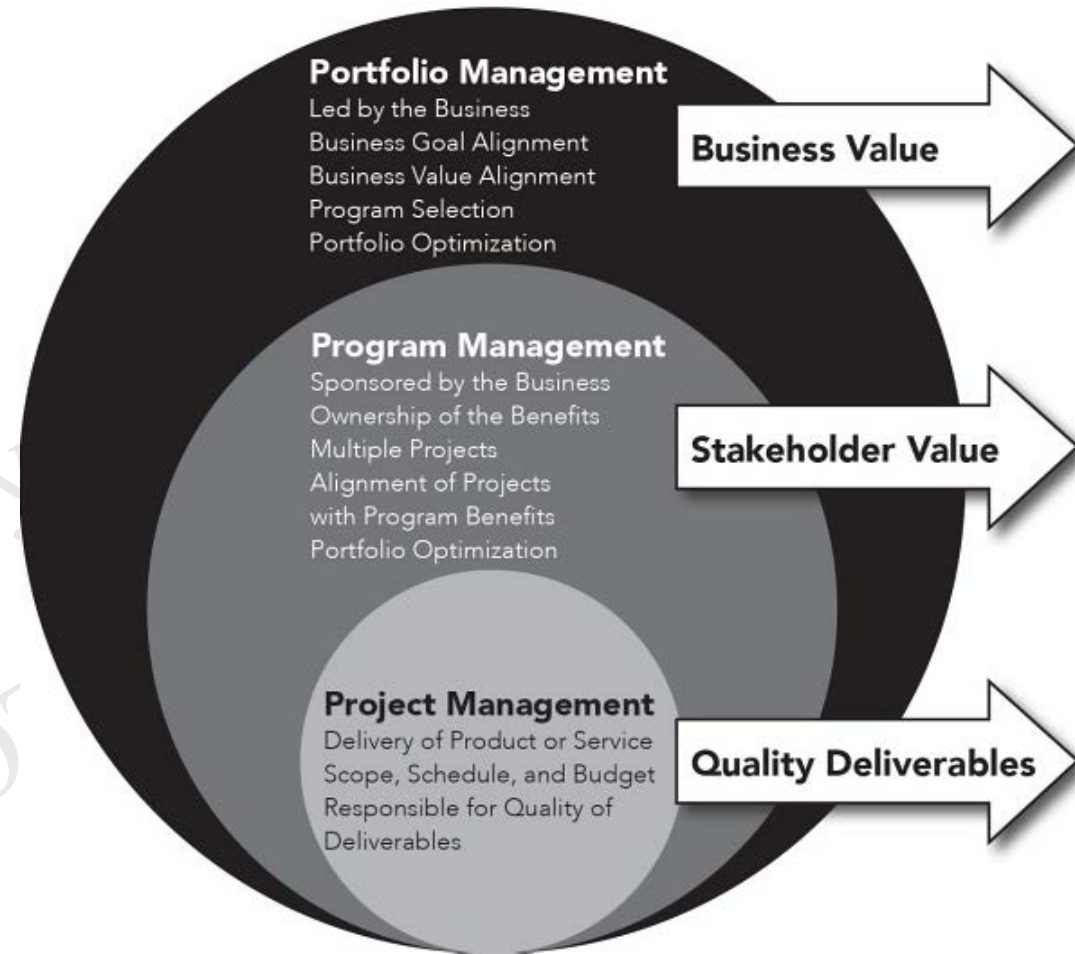
❑ Project scope may also be **derived** from a detailed breakout of the work using a Work Breakdown Structure (WBS), which breaks the project up into smaller, more manageable pieces.

statement of work (SOW)

That portion of a contract describing the actual work to be done by means of specifications or other minimum requirements, quantities, performance date, and a statement of the requisite quality. The SOW for the project should reflect all work to be performed. The SOW communicates the work scope requirements for a program and should define the requirements to the fullest extent practicable. It is a basic element of control used in the processes of work assignment and establishment of program schedules and budgets.

Scope, objectives, and benefits of projects, programs, and portfolios

- ❑ Projects, programs, and portfolios all have different scope and objectives, and provides different benefits and value to the organization (see FIGURE 4-22).



Scope, objectives, and benefits of projects, programs, and portfolios

- FIGURE 4-22A presents a comparison of project, program, and portfolio scope, objectives, and benefits to the organization and stakeholders.

FIGURE 4-22A. Comparison of Project, Program, and Portfolio Scope, Objectives, and Benefits (CMS Group, Inc.)

	Project	Program	Portfolio
Scope	Single project	Multi-project	Proposals, programs and projects
Objective	Deliver promised results	Coordination and communication among its projects	Investment and benefits optimization
Benefit	Reduce risk	Deliver business outcomes	Resource allocation and optimization

Introduction

❑ The following areas are presented in this section:

1. **Project Management Overview**
2. **Scope, Objectives, and Benefits of Projects, Programs, and Portfolios**
3. **Contract Manager and Project Manager Interfaces**
4. Causes of Failed Projects and Contract Claims or Disputes
5. Project Management Key Terms, Definitions, and Acronyms

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Contract manager and project manager interfaces

- ☐ There are **several interfaces** between contract managers, project managers, their organizations, and the client.
- ☐ Each interface in this section illustrates
 1. What information is exchanged and
 2. Who is responsible for providing it.

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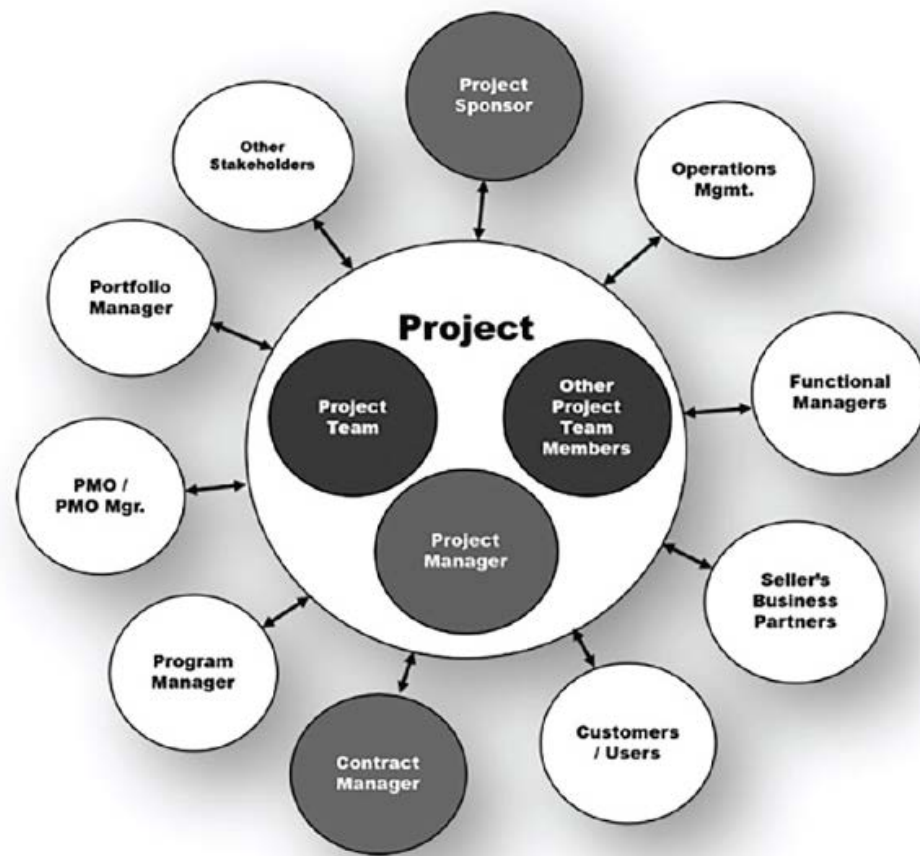
Contract manager and project manager interfaces

1. Project manager interfaces
2. Interfaces throughout the contract life cycle
3. Interfaces during the pre-award life cycle phase
4. Interfaces during the pre-awarded phase/selection and award process step
5. Interfaces during the contract award phase
6. Interfaces during the post-award phase
7. Detailed contract analysis
8. Project performance reporting
9. Quality assurance reports
10. Financial administration
11. Contract changes
12. Contract closeout

Contract manager and project manager interfaces: Project manager interfaces

- ❑ In some instances, the contract manager may be the project sponsor.

FIGURE 4-23. Project Manager's Organizational Interfaces (CMS Group, Inc.)



Contract manager and project manager interfaces: Project manager interfaces

- ❑ The contract manager's organizational interfaces are presented in FIGURE 4-24.

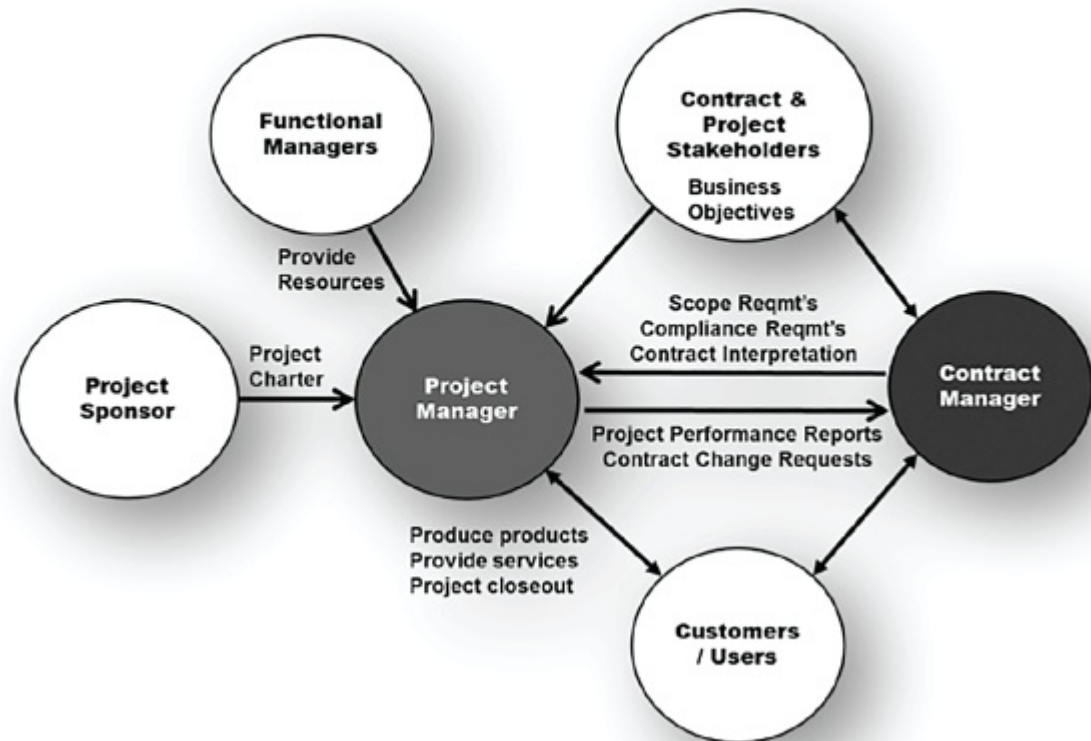
FIGURE 4-24. Contract Manager's Organizational Interfaces (CMS Group, Inc.)



Contract manager and project manager interfaces: Project manager interfaces

- ❑ FIGURE 4-25 presents a **combined view** of the contract manager's and project manager's interfaces.

FIGURE 4-25. Combined View of Interfaces (CMS Group, Inc.)



Contract manager and project manager interfaces: Interfaces throughout the contract life cycle

❑ FIGURE 4-26 presents a **comparison** of the primary responsibilities of the contract manager and project manager.

FIGURE 4-26. Comparison of Primary Responsibilities (CMS Group, Inc.)

Contract Manager: Responsible for Contract Compliance	Project Manager: Responsible for Project Performance
Primarily responsible for contract management	Overall accountability for the project and the project management team
Contract drafting, negotiation, and execution	Project administration (e.g., change management, communications, etc.)
Monitor contractor's performance	Project planning, initiation, control, management, and execution
Provide contract interpretation and resolve disputes	Single point of contact for client's project executive or representative
Ensure contracts are compliant with all government regulations and requirements	Liaison between the client and the project manager's organization
Responsible for settling terminations and settling claims	The project manager is the leader of the project management team
Authority to obligate funds to enter into new contracts, modifications, or termination	Consistent communication between the client and the project manager's organization

Contract manager and project manager interfaces: Interfaces throughout the contract life cycle

❑ For each project, the **contract manager provides** the following to the **project manager**:

1. The contract, which contains the negotiated scope and compliance requirements,
2. The customer's expectations, and
3. Contract interpretation when there are questions or issues about contractual requirements or acceptance criteria.

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Contract manager and project manager interfaces: Interfaces throughout the contract life cycle

- ❑ The **project manager** provides the project's performance reports and status to the contract manager.
- ❖ If the **client requests** any changes during the project they will
 1. **Document** the client's requested change and
 2. **Review** it with the contract manager to **determine** if it is in or out of the scope of the contract, the impact, and
 3. **How to respond** to the client's request.

Contract manager and project manager interfaces: Interfaces during the pre-award life cycle phase

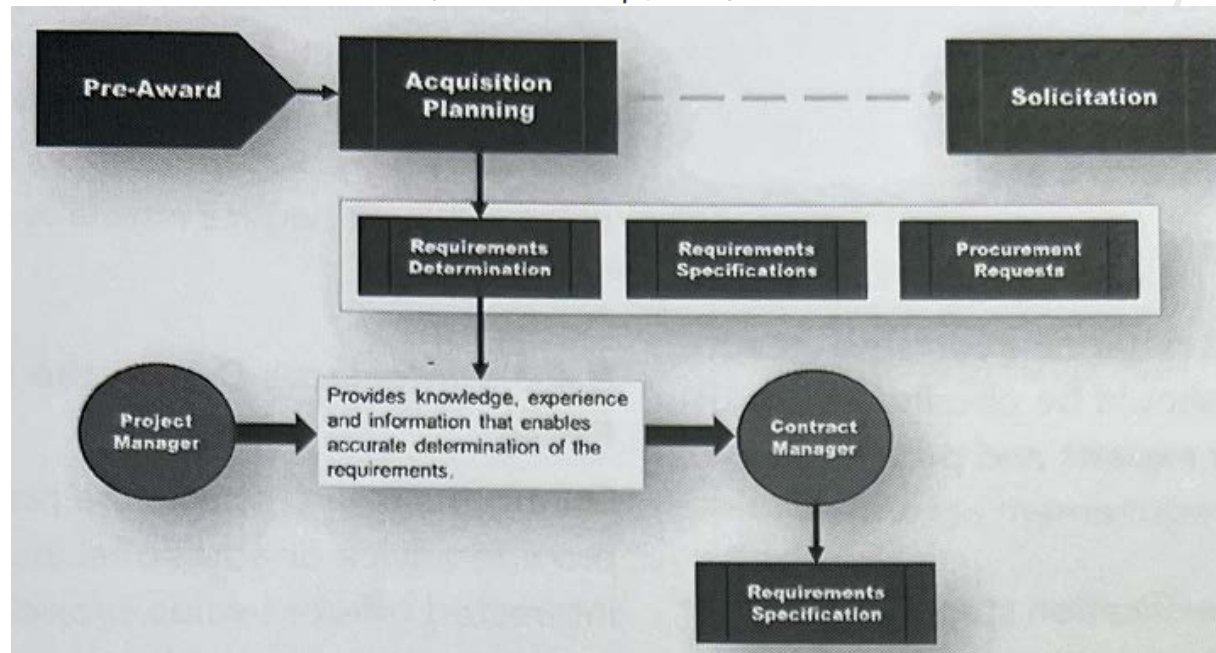
- ❑ There are **several project management processes** or activities within the pre-award life cycle phase.
- ❖ **Each step** has different interfaces and exchanges of information between the contract manager and project manager.
- ❖ These steps include:
 1. Requirements determination,
 2. Requirements specification, and
 3. Procurement requests.

Let's see what do they mean?

Contract manager and project manager interfaces: Interfaces during the pre-award life cycle phase

- ❑ During the requirements determination step (see FIGURE 4-27), **feedback** should be obtained from
 1. Appropriate subject matter experts and
 2. Project managers
 to help define each requirement accurately.

FIGURE 4-27. The Project Manager's Interface During Requirements Determination Process (CMS Group, Inc.)

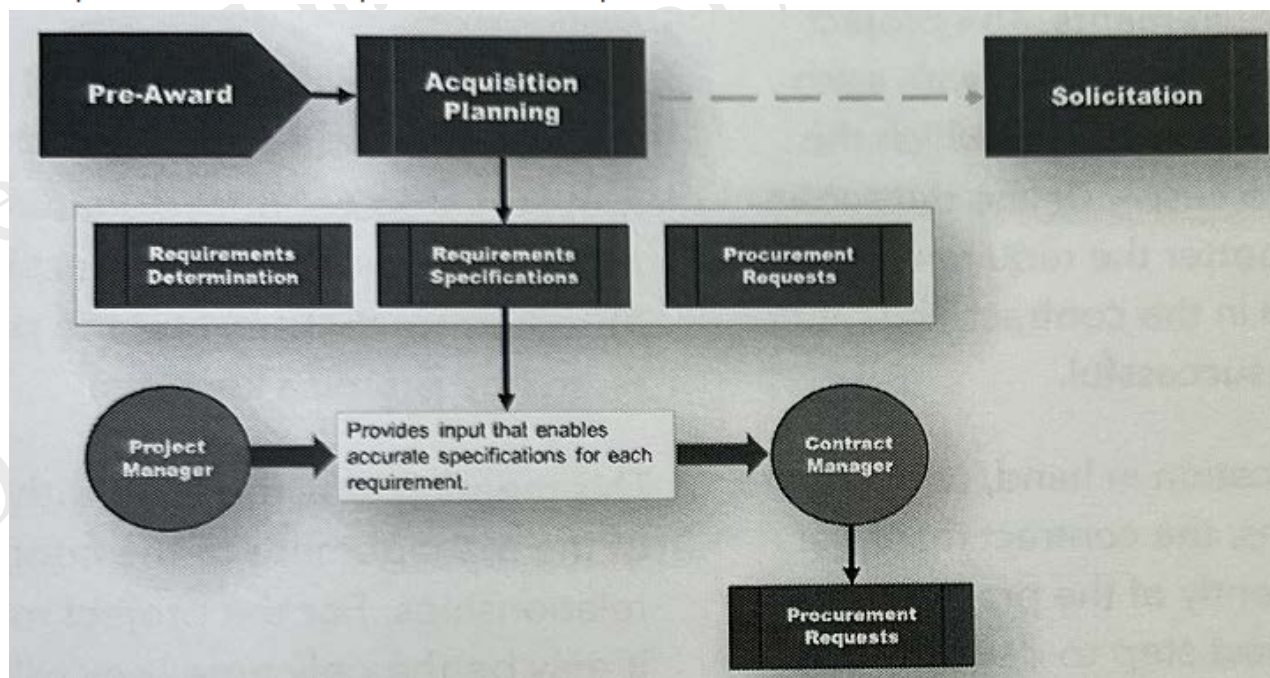


Contract manager and project manager interfaces: Interfaces during the pre-award life cycle phase

- ❑ For the requirements specification step (see FIGURE 4-28), it is advisable for the contract manager to **engage and collaborate** with the project manager to help define the **requirements** that will be written into the contract,

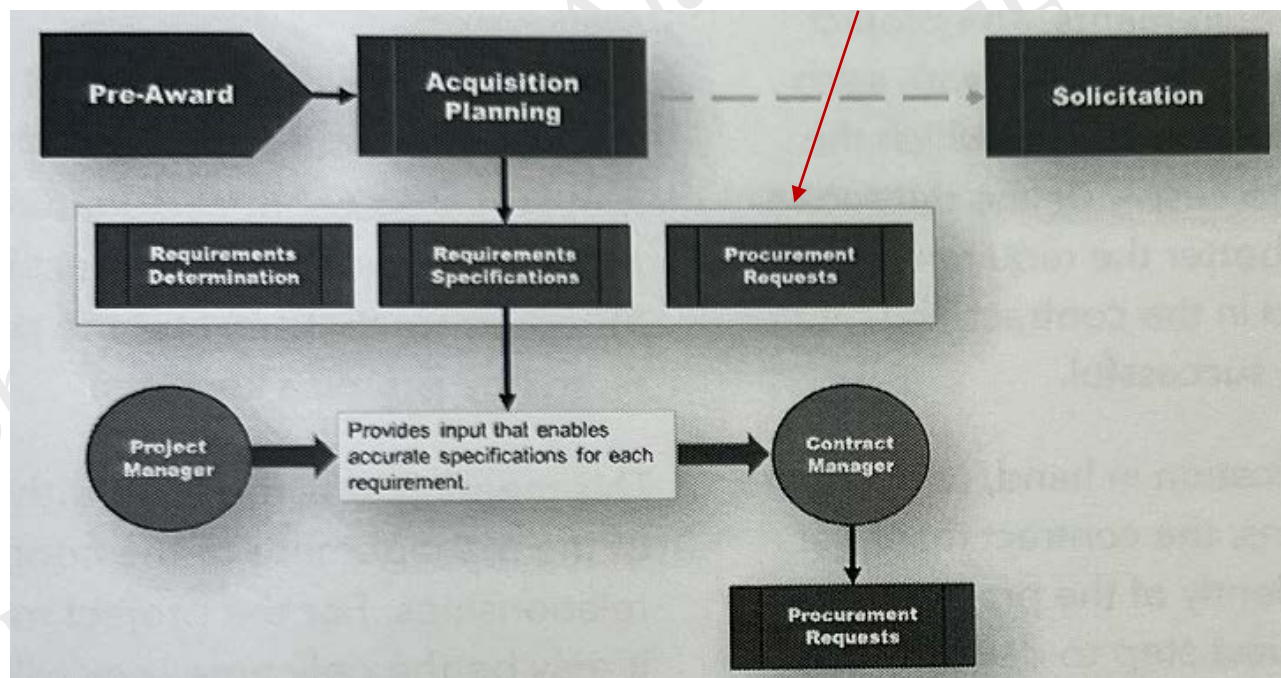
especially since the **project manager** will be responsible for monitoring the performance and delivery of those requirements.

FIGURE 4-28. Project Manager's Interface During the Requirements Specification Step (CMS Group, Inc.)



Contract manager and project manager interfaces: Interfaces during the pre-award life cycle phase

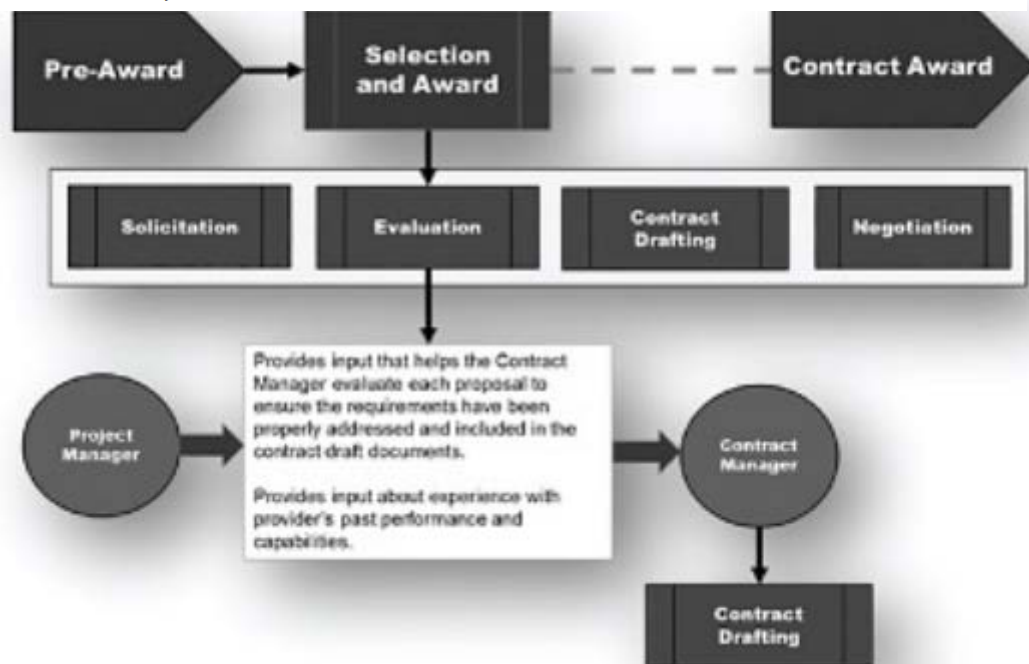
- With an accurate specification in hand, **unless** there are questions or concerns, the **contract manager** can now work independently of the project manager in the procurement request step to develop the **solicitation**.



Contract manager and project manager interfaces: Interfaces during the pre-award phase/selection and award process step

- ❑ The next interface will be when the **contract manager requests or assigns** the **project manager** to **evaluate** the technical solutions offered by sellers (see FIGURE 4-29).
- ❑ The **project manager** can provide verification that the **requirements** have been properly addressed or not.

FIGURE 4-29. Project Manager's Interface During the Evaluation Process (CMS Group, Inc.)



Provides input that helps the **Contract Manager evaluate each proposal** to ensure the requirements have been properly addressed and included in the contract draft documents.

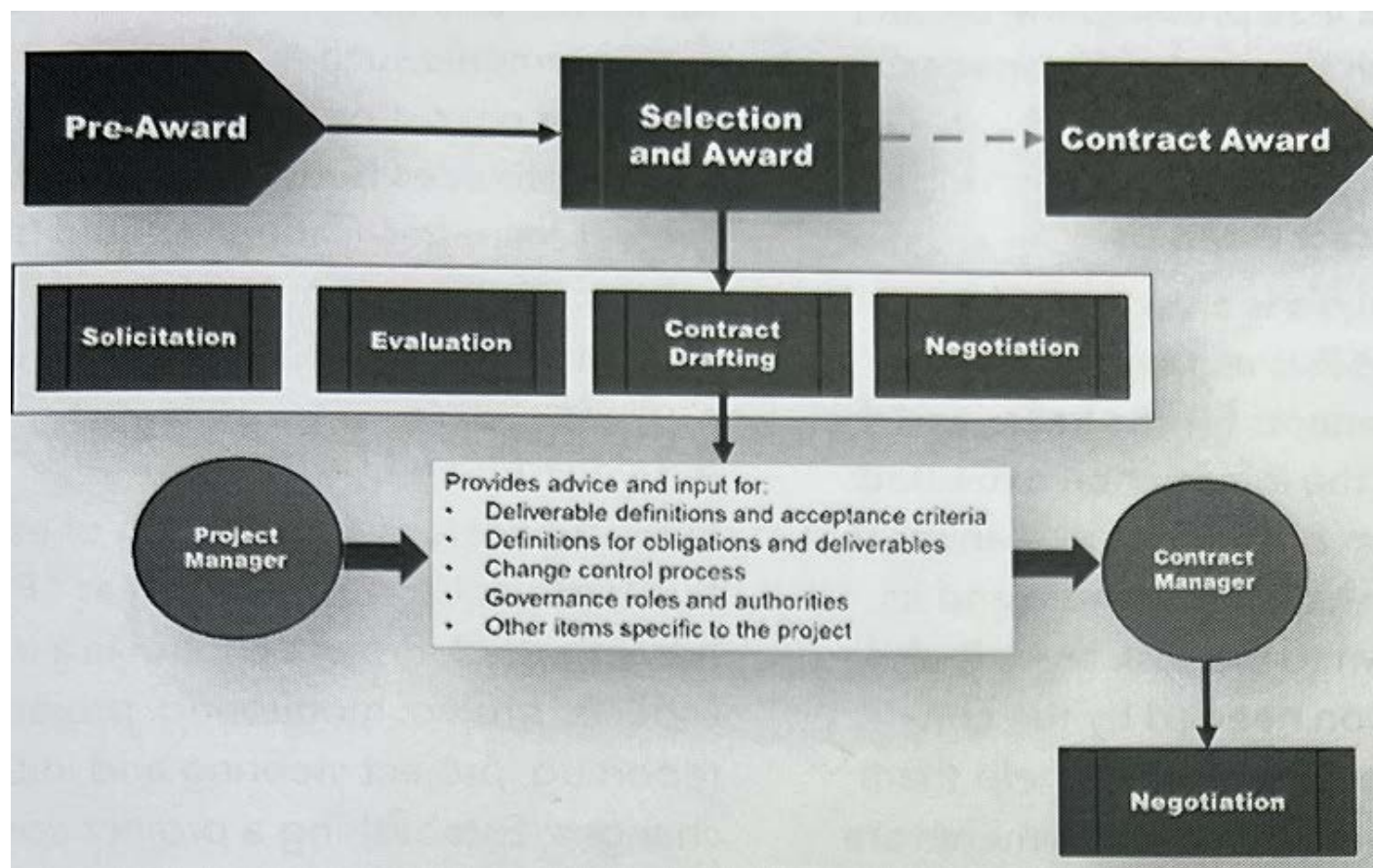
Provides input about experience with providers past performance and capabilities.

Contract manager and project manager interfaces: Interfaces during the pre-award phase/selection and award process step

- ❑ The contract drafting (forming the contract) step provides **another opportunity** for the contract manager to interface with the project manager (see FIGURE 4-30).
- ❑ This is a **very important** interface because,
if there are negotiations,
the **project manager** can **help** the contract manager
determine any possible flexibility with the definitions and acceptance criteria for many of the **contract's deliverables**.
- ❑ This will protect the integrity of the **specifications and acceptance criteria**.
- ❑ Risk can be **mitigated and avoided** by incorporating the project manager's input into the contract.

Contract manager and project manager interfaces: Interfaces during the pre-award phase/selection and award process step

FIGURE 4-30. Project Manager's Interface During the Contract Drafting Process (CMS Group, Inc.)



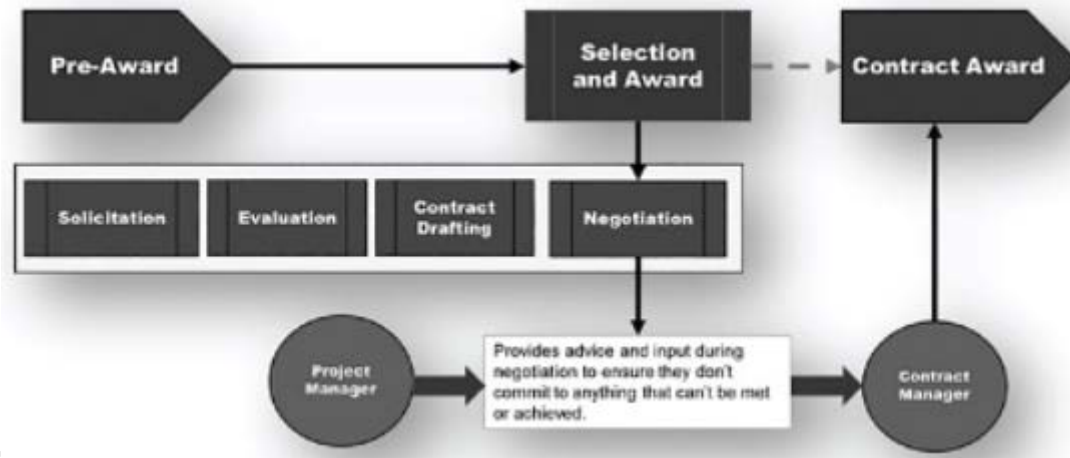
Contract manager and project manager interfaces: Interfaces during the pre-award phase/selection and award process step

- ☐ During the negotiation process, the **project manager** should **validate the requirements** being drafted into the contract.
- ☐ This is an important step for ensuring the requirements are achievable and clearly understood by both parties.
- ☐ FIGURE 4-31 illustrates the **project manager's interface** during the **negotiation process**.

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Contract manager and project manager interfaces: Interfaces during the pre-award phase/selection and award process step

FIGURE 4-31. Project Manager's Interface During the Negotiation Process (CMS Group, Inc.)



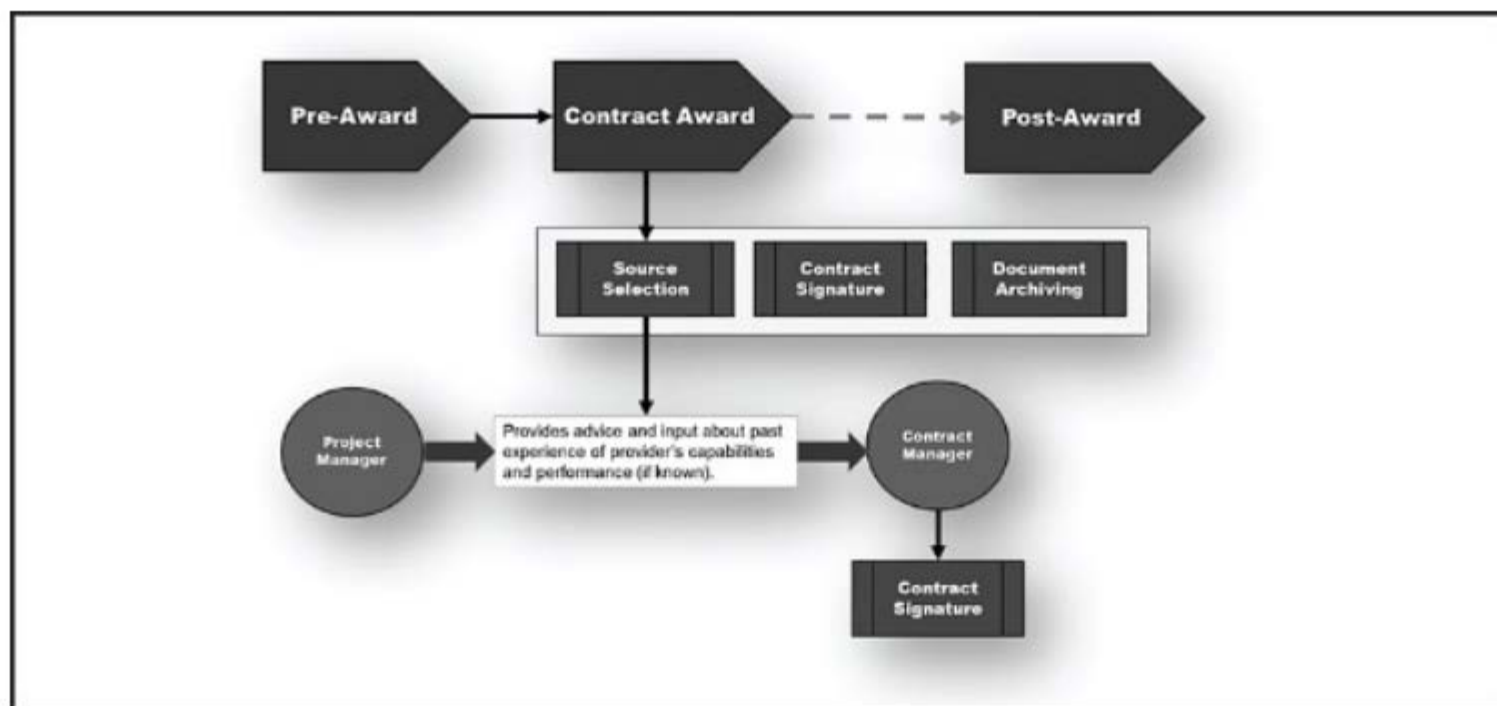
Provides **advice** and **input** during negotiation to ensure they **don't commit** to anything that **cannot be met or achieved**.

Contract manager and project manager interfaces: Interfaces during the contract award phase

- ❑ During the award phase,
 - the **project manager** can provide
 1. Advice or additional insight concerning an interested **offeror's value proposition** and
 2. Capabilities that may serve the **best interests** of the organization.
- ❑ This insight should be used **in addition** to the information available to the contract manager.
- ❑ FIGURE 4-32 displays the project manager's interface during the source selection process.

Contract manager and project manager interfaces: Interfaces during the contract award phase

FIGURE 4-32. The Project Manager's Interface During the Source Selection Process (CMS Group, Inc.)



Provides **advice** and **input** about past experience of provider's capabilities and performance (if known)

Contract manager and project manager interfaces: Interfaces during the post-award phase

- ❑ Possibly the most **important internal organizational meeting** after contract signature

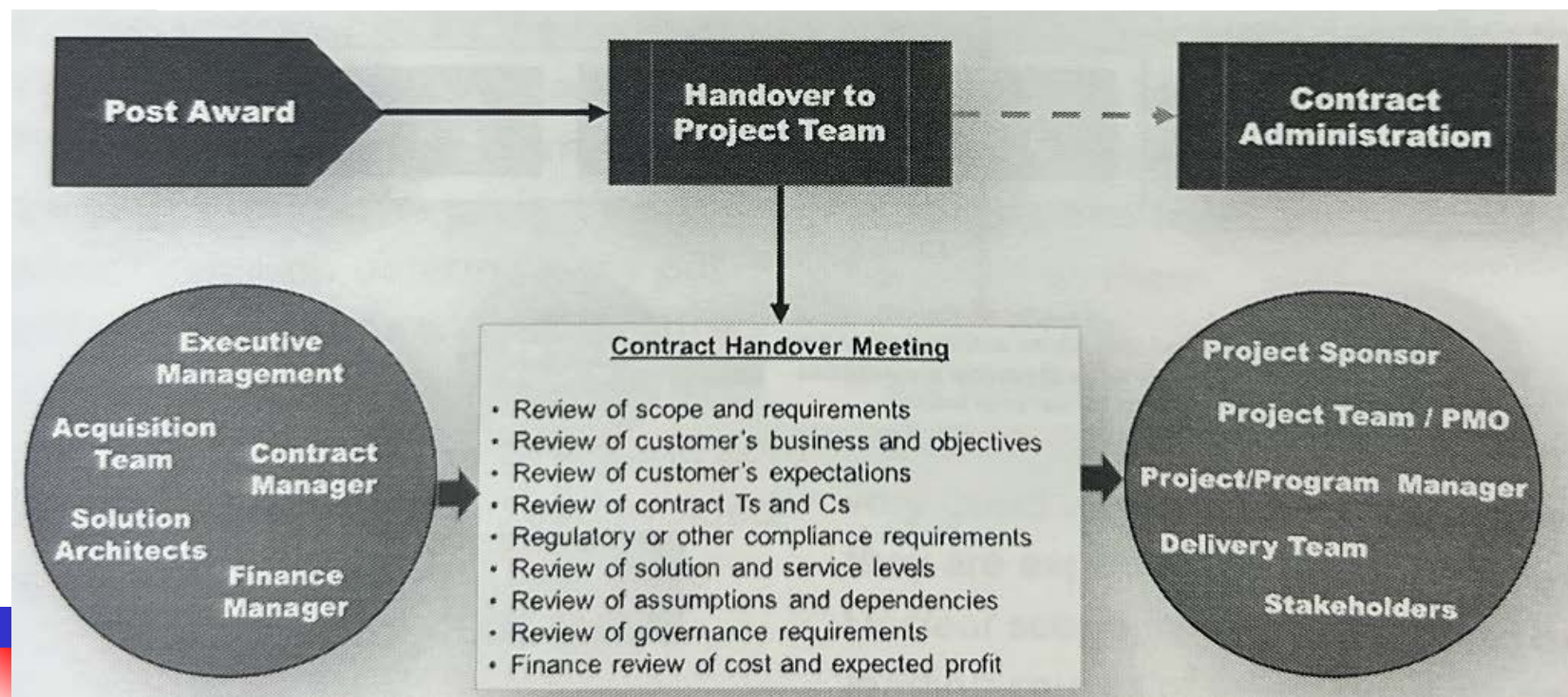
is the **handover meeting** between the contract management team (the promise makers) and the project management team (the promise keepers).

What does this meeting set?

Contract manager and project manager interfaces: Interfaces during the post-award phase

- ❑ FIGURE 4-33 presents the project manager's interface with the contract manager's team during the handover meeting.

FIGURE 4-33. Project Manager's Interface with the Contract Manager's Team During the Handover Meeting (CMS Group, Inc.)



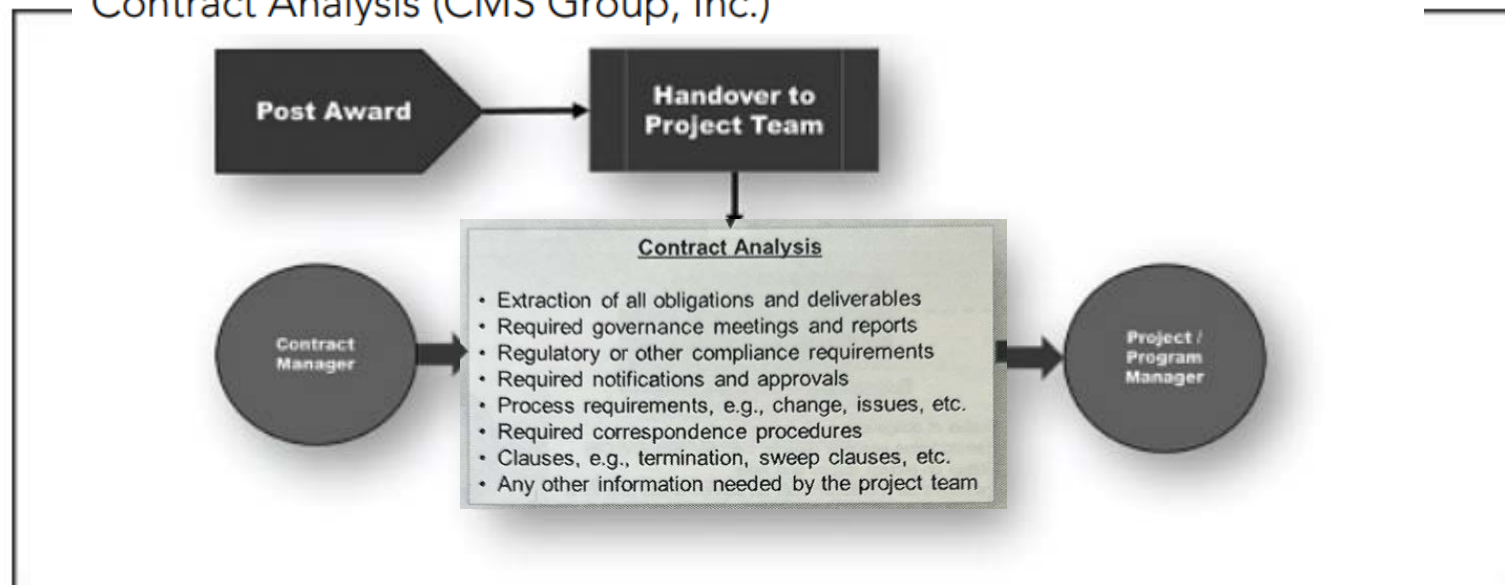
Contract manager and project manager interfaces: Detailed contract analysis

- ☐ A detailed contract analysis is a very **valuable work product**.
- ☐ This document lists all the contractual obligations and requirements for the seller and the buyer.
- ☐ The **list contains** the information extracted and provided in the form of a **contract calendar** that lists
 1. Every “**seller will or shall**” deliverable and
 2. Its **due date** (if known) down to the task level.

Contract manager and project manager interfaces: Detailed contract analysis

- ❑ **Armed** with this information about all their contractual requirements and obligations, the **project manager and team** can then start to effectively **plan** the resources and schedule them for when they are needed.

FIGURE 4-34. The Contract Manager's and Project Manager's Review of Contract Analysis (CMS Group, Inc.)



Contract manager and project manager interfaces: Project performance reporting

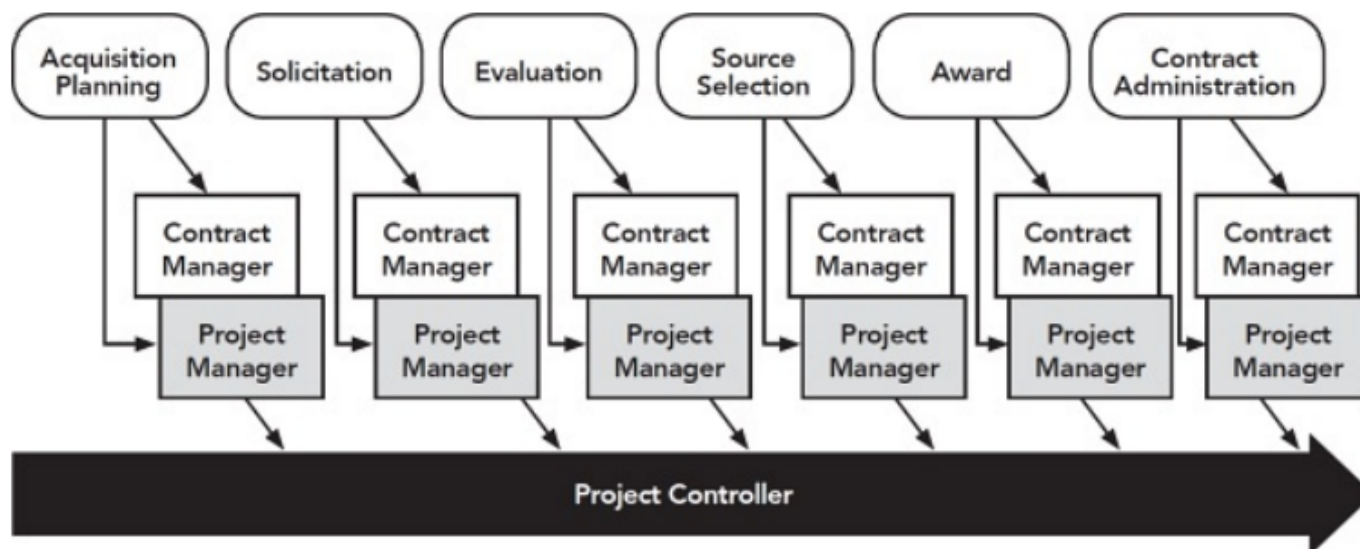
- ❑ There are many tools, techniques, and methods for reporting and assessing project performance.

We need project control here!

Contract manager and project manager interfaces: Project performance reporting

- ❑ To further illustrate the **continuous overlap** of contract management to project management and throughout to the **project controller** for compliance and monitoring optimization, see FIGURE 4-35.

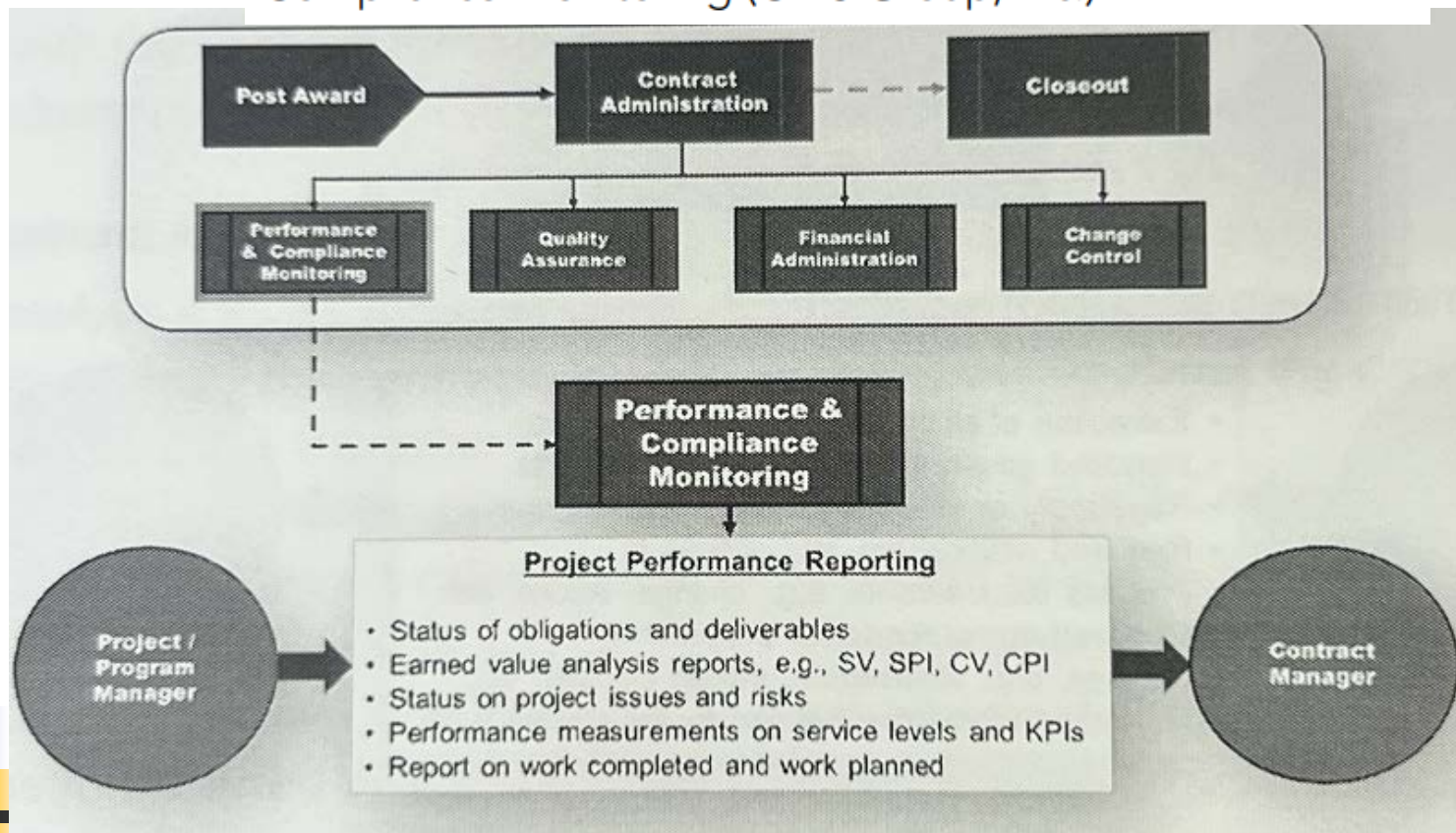
FIGURE 4-35. Contract Management and Project Management Overlap with Project Controller Oversight (contributed by the JTOA Corporation)



Contract manager and project manager interfaces: Project performance reporting

- ❑ FIGURE 4-36 presents the interface during contract performance and compliance monitoring.

FIGURE 4-36. The Interface During Contract Performance and Compliance Monitoring (CMS Group, Inc.)



Contract manager and project manager interfaces: Quality assurance reports

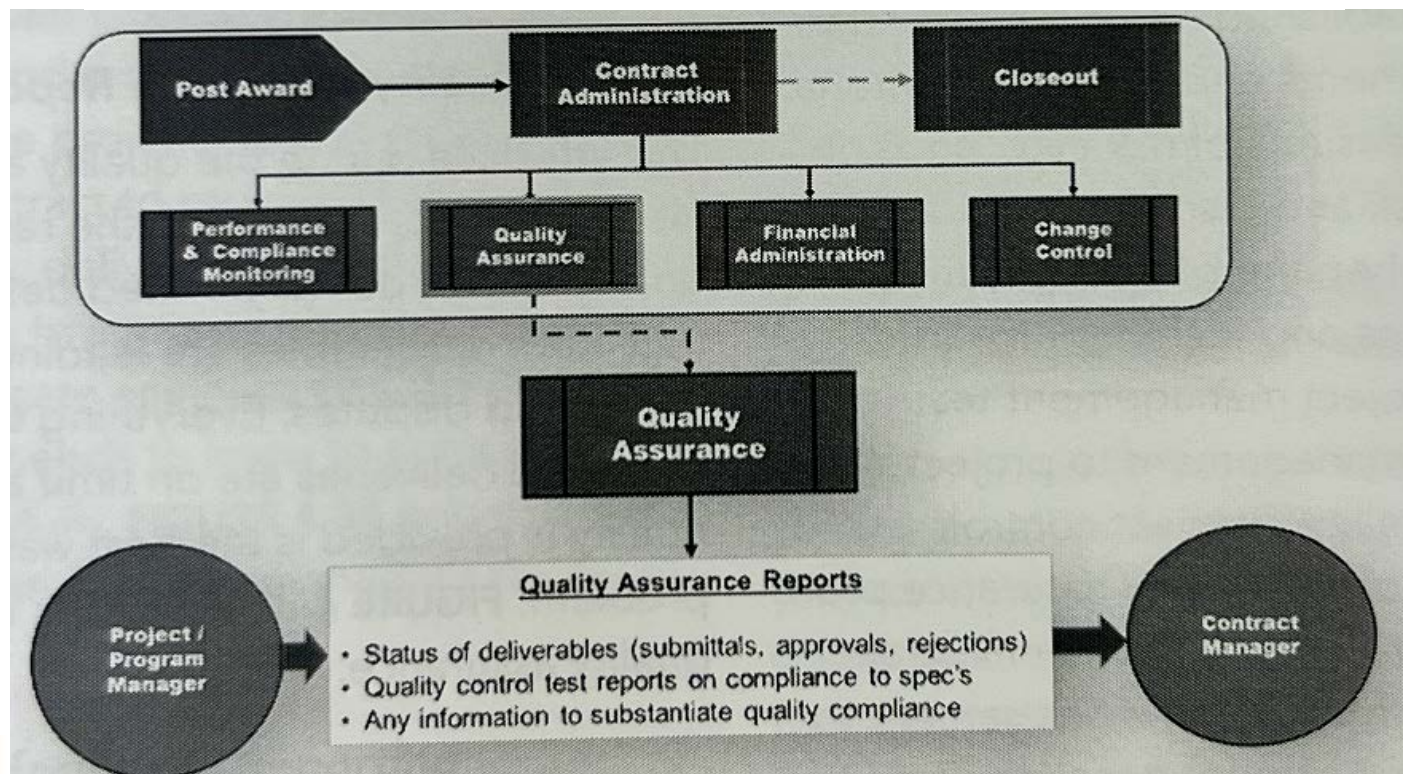
- ❑ This **interface** during the quality assurance step is also very important due to the **ramifications** of poor quality or late delivery.
- ❖ Failed delivery and failed (rejected) deliverables are leading causes of **contract claims and disputes**.

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Contract manager and project manager interfaces: Quality assurance reports

❑ FIGURE 4-37 illustrates the interface during quality assurance.

FIGURE 4-37. The Interface During Contract Administration and Quality Assurance (CMS Group, Inc.)



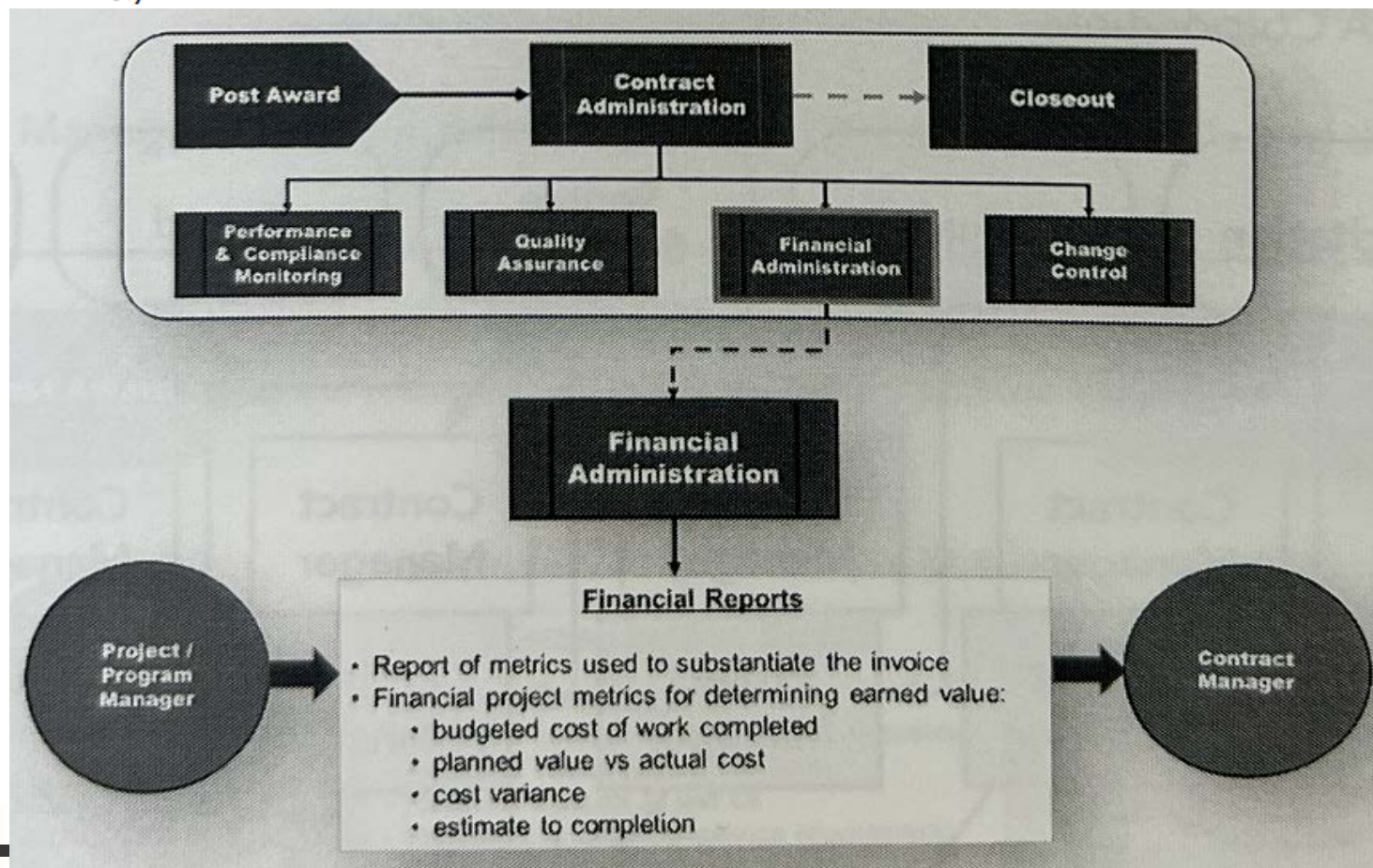
Contract manager and project manager interfaces: Financial administration

- ❑ During the financial administration step, the **project manager** provides the contract manager with **reports to demonstrate**:
1. What work was **completed** and **needs** to be invoiced for;
 2. The supporting documentations to **substantiate** the **invoices**;
 3. Depending upon the **type of contract**, the earned value metrics for determining if the project is ahead or behind schedule; and
 4. If they are over or under budget.

Contract manager and project manager interfaces: Financial administration

□ FIGURE 4-38 presents the interface during financial administration.

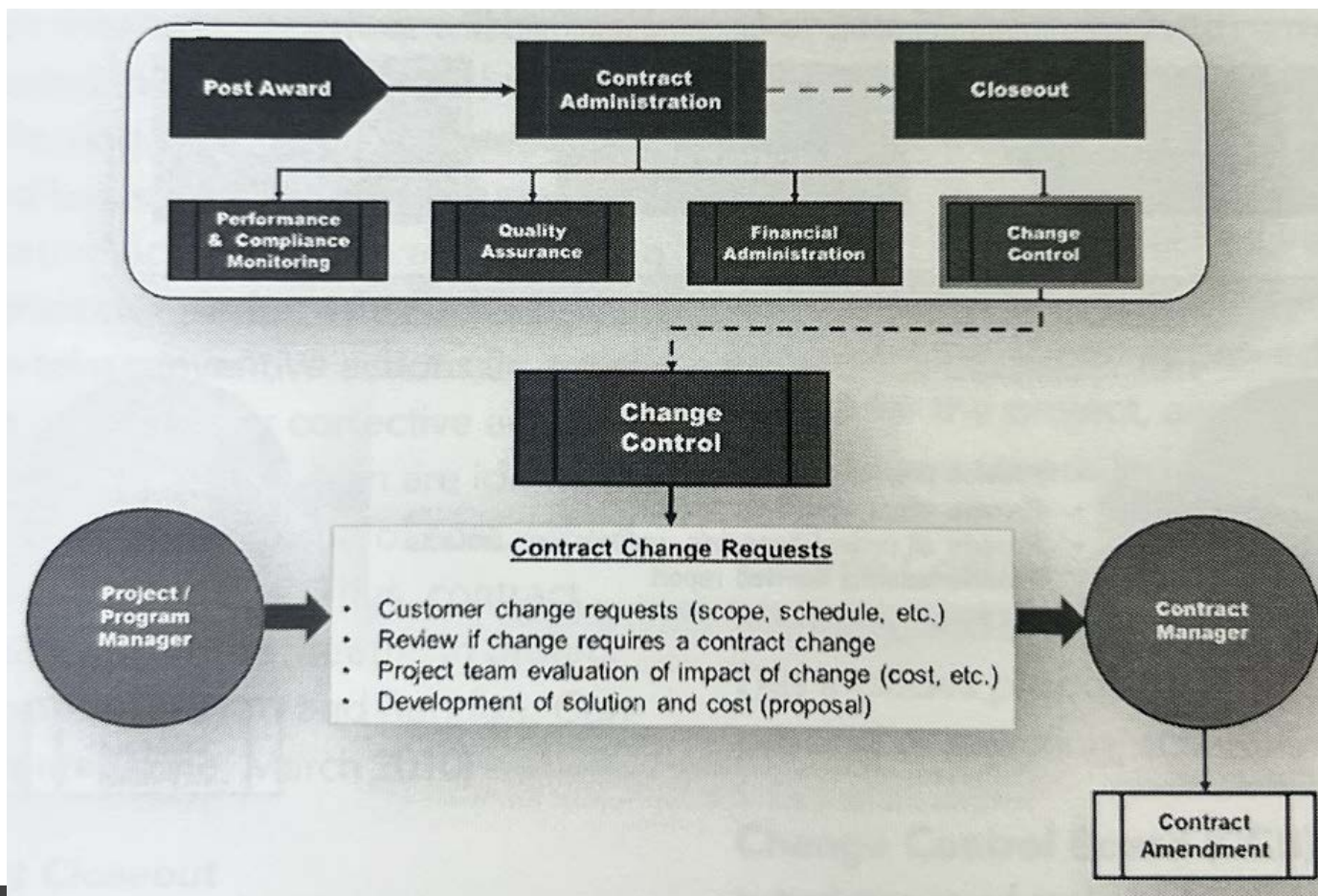
FIGURE 4-38. The Interface During Financial Administration (CMS Group, Inc.)



Contract manager and project manager interfaces: Contract changes

❑ FIGURE 4-39 illustrates the interface during change control.

FIGURE 4-39. The Interface During Change Control (CMS Group, Inc.)



Contract manager and project manager interfaces: Contract closeout

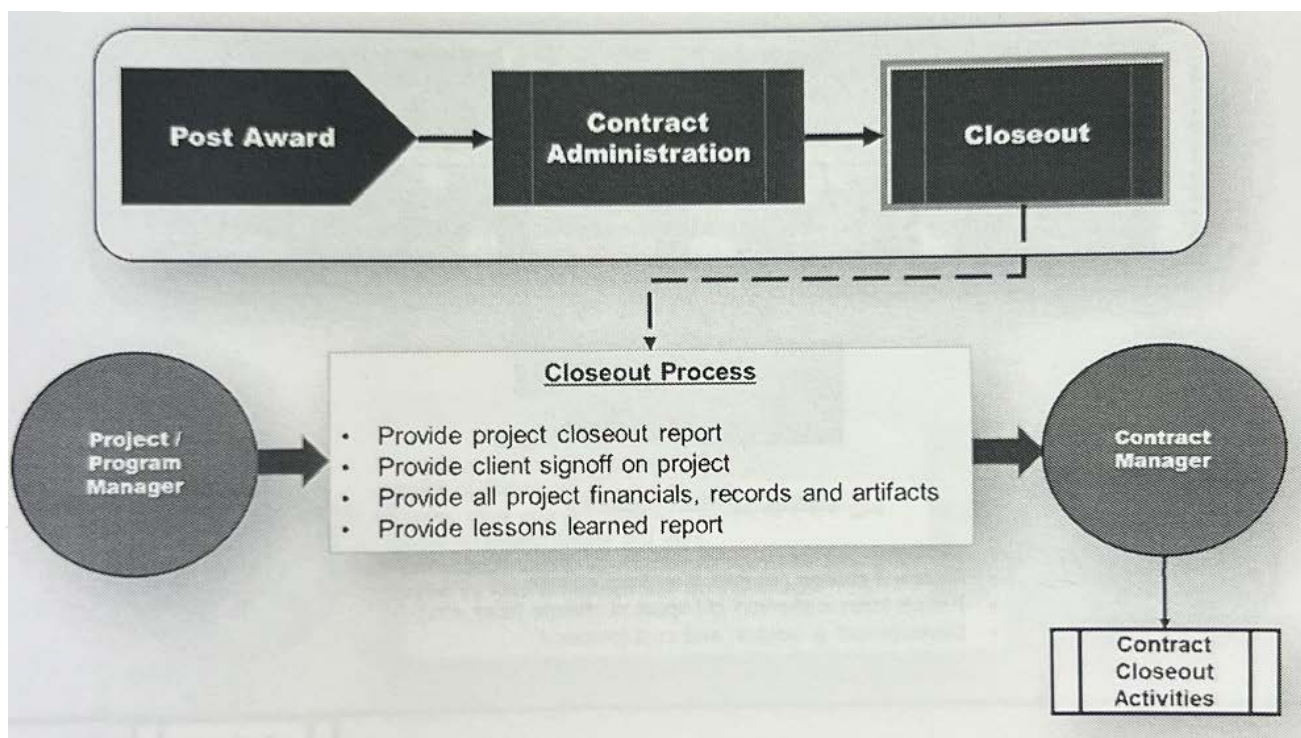
- ☐ **Project managers** should provide contract managers with their project closeout reports.
- ☐ There should also be a **lessons-learned input** from the project manager.
- ☐ This is invaluable later when confronted with a **similar contract and project**.

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Contract manager and project manager interfaces: Contract closeout

❑ FIGURE 4-40 presents the interface during the contract closeout.

FIGURE 4-40 The Interface During the Contract Closeout (CMS Group, Inc.)



Introduction

❑ The following areas are presented in this section:

1. Project Management Overview
2. Scope, Objectives, and Benefits of Projects, Programs, and Portfolios
3. Contract Manager and Project Manager Interfaces
4. Causes of Failed Projects and Contract Claims or Disputes
5. Project Management Key Terms, Definitions, and Acronyms

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Causes of failed projects and contract claims or disputes

- ❑ FIGURE 4-41 provides examples of project performance issues that can directly relate to contract claims and disputes.

FIGURE 4-41. Causes of Contract Claims or Disputes and Failed Projects (CMS Group, Inc.)

Causes of Contract Claims or Disputes	Causes of Project Failure
Scope and goals not clearly defined	Unclear scope requirements that lead to scope creep and unrecoverable costs
Responsibility of the parties not clearly defined	Failure to establish project governance (who and how the buyer and seller will communicate, make decisions, and work together)
Missed service levels and warranties	Failure to engage the people that will be doing the work when developing the contract and project requirements and estimates
Invoices / late payments	Failure to understand the organization's strategic goals and objectives and how the project helps achieve them
Failed delivery (deliverables)/acceptance	Quality issues with deliverables and performance due to vague definitions and lack of acceptance criteria
Payments are disputed	Underestimating the project's complexity and failure to plan accordingly
Ineffective change management process	Failure to identify all the stakeholders and their needs and requirements for the project

Causes of failed projects and contract claims or disputes

FIGURE 4-41. Causes of Contract Claims or Disputes and Failed Projects
(CMS Group, Inc.)

Insufficient project control	Lack of oversight throughout the contract management and project management processes for combined checks and balance and applicable influence for successful outcomes
Unmet performance/guarantees	Lack of resources, staffing, or skills required in each phase of the project
Liquidated damages	Failure to manage internal stakeholders and customer expectations
Price/price changes	Unclear team roles and responsibilities (why the project is being done and how each will contribute to the project's objectives)

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Introduction

❑ The following areas are presented in this section:

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2. **Scope, Objectives, and Benefits of Projects, Programs, and Portfolios**
3. **Contract Manager and Project Manager Interfaces**
4. **Causes of Failed Projects and Contract Claims or Disputes**
5. Project Management Key Terms, Definitions, and Acronyms

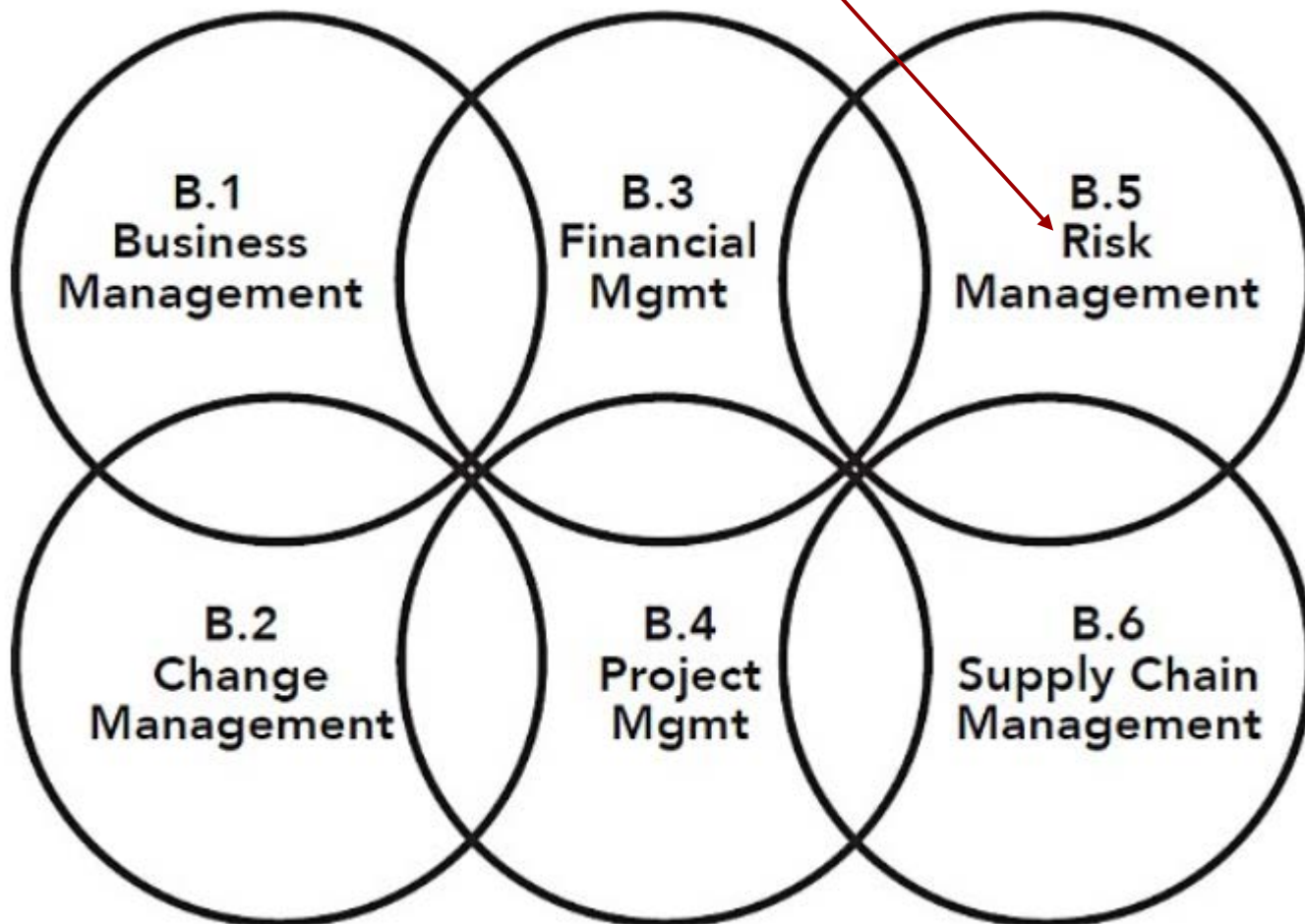
You know the last part!

MANAGEMENT COMPETENCY

(RISK MANAGEMENT)

Successful contract management competency

FIGURE 4-3. Management Competencies



Risk management

- ❑ *(From Gregory Garrett's book, Risk Management for Complex U.S. Government Contracts and Projects)*

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Risk management

1. Risk management overview

- ❖ Uncertainty in risk management
- ❖ Risk-mitigation elements and practices
- ❖ Opportunity and risk management (ORM)
- ❖ Knowledge management in assessing risk

2. Sources of risk in contract management

- ❖ Risk management framework in contract management
- ❖ Sources of uncertainty and risk in contract management
- ❖ Risk management through contract terms and conditions
- ❖ Risk sharing through contract types

3. Sources of risk in project management

4. Risk management: Common myths and best practices

Risk management

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4. Risk management: Common myths and best practices

Risk management overview

- ❑ Thus, it is **vital for contract managers** and their stakeholders to work together to **mitigate** the contractual, scheduling, technical, legal, and financial aspects of risk.

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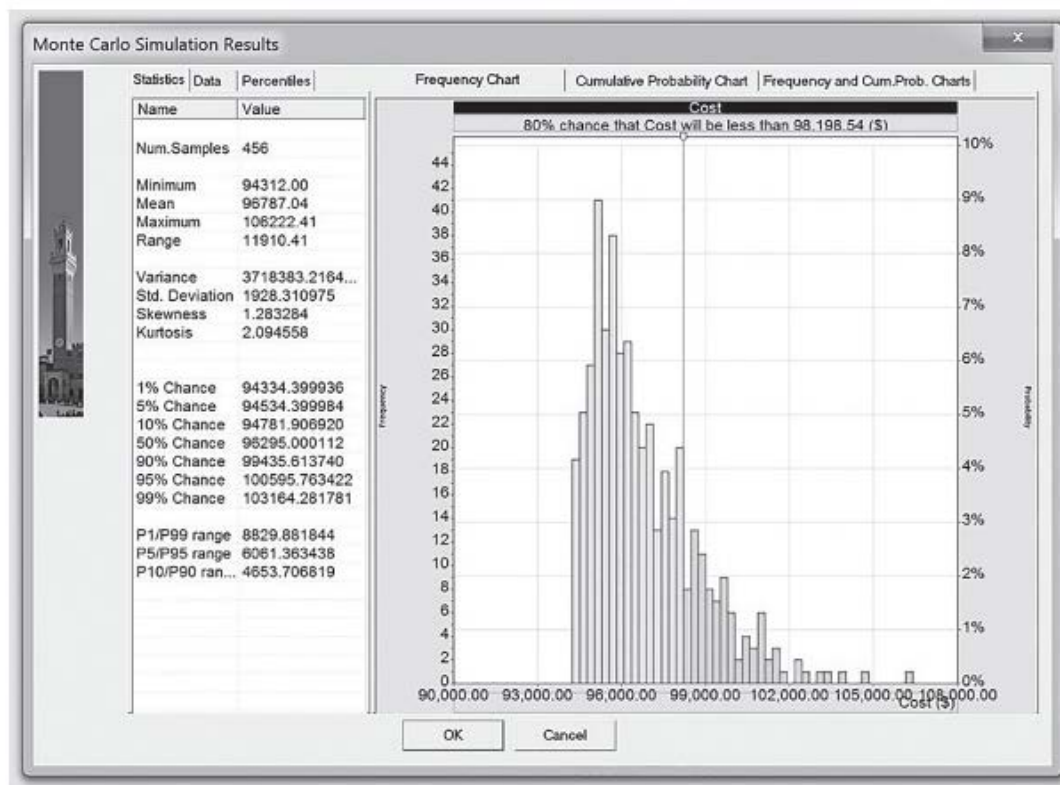
Risk management overview: Uncertainty in risk management

- ❑ Consequently, **risks** are a double uncertainty—
 1. First being will it occur and
 2. Second being the magnitude or impact of the outcome
- ❑ Uncertainty is evaluated by using a **range of values** to represent the likely outcomes in cost or schedule analyses.
- ❑ Risks are evaluated by a **two-step process**.
 1. First, we consider will the risk occur and
 2. Then we consider the impact.

Risk management overview: Uncertainty in risk management

- ❑ Currently 80% certainty is the benchmark used by DoD and Congress for reporting likely program costs.

FIGURE 4-42. Sample Monte Carlo Simulation Graph (image credit to Intaver Institute Risky Project Software)



Risk management

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4. Risk management: Common myths and best practices

Risk management overview: Risk mitigation elements and practices

- ❑ A **comprehensive approach** to risk management should appropriately address the “4 Ps” of success:

people, processes, performance, and price.

- ❑ See FIGURE 4-43 the associated risk-mitigation elements and practices.

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Risk management overview: Risk mitigation elements and practices

FIGURE 4-43. Risk Management Best Practices

4 Ps	Risk-Mitigation Elements and Practices
People	• Select highly qualified, competent, and certified professionals. • Provide appropriate individual, team, and organizational performance standards, metrics, and incentives. • Provide timely professional continuing education, cross-functional education and experience, and on-the-job training in risk management. • Provide timely and appropriate performance feedback. • Develop realistic requirements and delivery schedules. • Develop and implement an effective mentor/coaching program. • Ensure effective training in risk management processes and tools are provided. • Create and consistently practice a "tone at the top" message of the need and value of life cycle risk management. • Use expert consultants as needed—seek advice.

Read it yourself!

Risk management overview: Risk mitigation elements and practices

Processes	• Develop an integrated life cycle risk management process that appropriately addresses all functional areas of the organization of each contract from beginning to end. • Incorporate knowledge management tools to ensure knowledge is captured, shared, and reused before, during, and after work is performed throughout the contract/project life cycle. • Practice disciplined systems engineering and project management. • Implement an effective earned value management system (EVMS). • Use multiyear procurement (MYP) and multiyear funding (MYF) to ensure stable funding. • Develop and use an effective cost estimating and accounting system. • Ensure risk identification tools and techniques are developed and appropriately implemented. • Develop an appropriate governance structure. • Provide effective processes and tools to assess the probability and financial impacts of potential risks (technical, schedule, and contract). • Allocate funds for appropriate risk-mitigation planning and actions.
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Read it yourself!

Risk management overview: Risk mitigation elements and practices

Performance	• Terminate all or part of poor performance projects as soon as possible. • Remove poor individual performers if they are not adding value to the team and project. • Remedy or terminate poorly performing subcontractors. • Manage contract changes. • Create a performance-based culture within your team and organization. • Communicate your organization's and team's vision, mission, and performance goals. • Develop performance-based contracts with your clients and suppliers. • Create an effective ethics and compliance internal control system. • Practice risk management using a life cycle risk management process. • Ensure regulatory and contract (FAR, CAS, SOX, etc.) compliance.
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Read it yourself!

Risk management overview: Risk mitigation elements and practices

Price	• Select appropriate pricing arrangements given the risk vs. reward opportunity. • Ensure life cycle costs are properly included in the budget and contract funding. • Create a management reserve in the project budget. • Avoid buy-in situations. • Price and negotiate contract changes appropriately. • Select and tailor contract terms and conditions to properly address items not priced into the contract. • Use appropriate cost estimating methods and techniques. • Conduct price analysis and/or cost analysis. • Obtain independent cost estimates. • Hire cost/pricing experts, either internally or through consultants.
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Read it yourself!

Risk management

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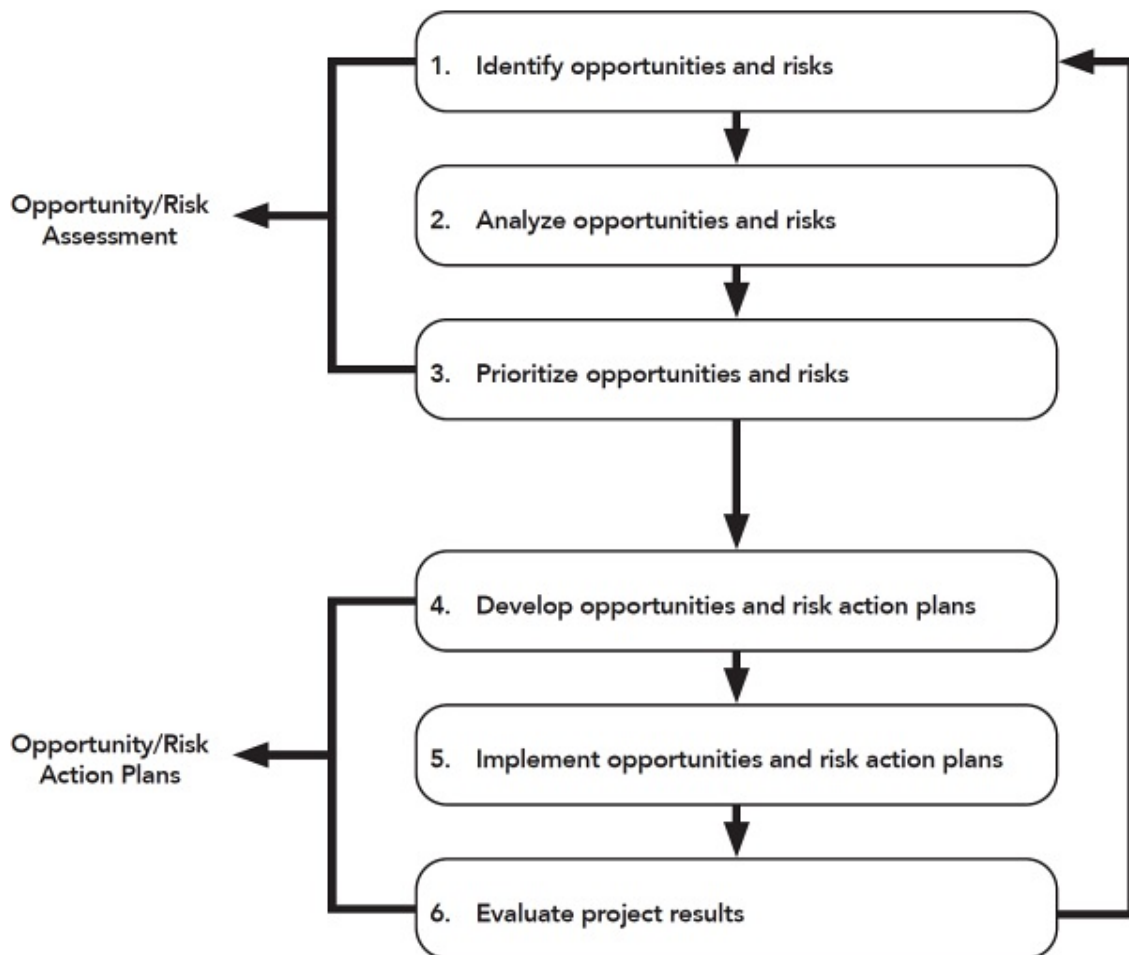
3. Sources of risk in project management

4. Risk management: Common myths and best practices

Risk management overview: Opportunity and risk management (ORM)

- ❑ The ORM Six-Step Model (see FIGURE 4-44) is an ongoing process model with two major components:
 - (1) opportunity/risk assessment and
 - (2) opportunity/risk action plans.

FIGURE 4-44. The Opportunity and Risk Management Six-Step Model (Garrett 2009)



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4. Risk management: Common myths and best practices

Risk management overview: Knowledge management in assessing risk

- ❑ The following are recommended knowledge management tools to utilize before, during, and after a project.

- ❖ **Learning Before (Peer Assists)**

- ✓ “Learning before doing”
 1. Targets a specific challenge,
 2. Imports knowledge from people outside the team,
 3. Identifies possible approaches and
 4. New lines of inquiry, and
 5. Promotes sharing of learning through a facilitated meeting.

Risk management overview: Knowledge management in assessing risk

- ❑ The following are recommended knowledge management tools to utilize before, during, and after a project.

❖ Learning During (Action Reviews)

- ✓ “Learning while doing” is a process that focuses people by having them answer four questions immediately after an activity or event:

1. What was supposed to happen?
2. What actually happened?
3. If these two answers are different, why are they different? and
4. What can we learn and immediately apply?

An added benefit is that, if done well and if people answer honestly, trust builds within the team.

Risk management overview: Knowledge management in assessing risk

- ❑ The following are recommended knowledge management tools to utilize before, during, and after a project.

❖ Learning After (Retrospects)

- ✓ “Learning after doing” is supported by a facilitated process.
 1. Conducted immediately after the end of the project or the project phase,
 2. A retrospect encourages team members to look back at the project to discover what went well and why, and what could have been done differently,
 3. With a view toward helping a different team repeat successes and avoid pitfalls.

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4. Risk management: Common myths and best practices

Sources of risk in contract management: Risk management framework in contract management

- ❑ The **process of building a risk management framework** for contract management can be summarized as follows (Esperne 2010):

1. Competency.

- ❖ **Learning** risk management principles and practices.

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Sources of risk in contract management: Risk management framework in contract management

- ❑ The **process of building a risk management framework** for contract management can be summarized as follows (Esperne 2010):

2. Translation.

- ❖ This is **applying** risk management to the contract management function, in particular
processes and legal and business **purposes of contracts**.
- ❖ It is
 1. Practicing of risk management throughout the **contract life cycle**, and
 2. Execution of risk management plans through the **enforcement of contract terms** and
 3. Management of **contractual relationships**,
to **achieve** organizational mission, goals, and objectives.

Sources of risk in contract management: Risk management framework in contract management

- ❑ The process of building a risk management framework for contract management can be summarized as follows (Esperne 2010):

3. Establishment.

- ❖ This is implementing risk management in **contract management** across the organization and at all levels, i.e., corporate governance including budgeting, strategic business planning, internal policies to include ethics and corporate social responsibility, acquisition regulations, and staff and line management processes.

Sources of risk in contract management: Risk management framework in contract management

- ❑ The process of building a risk management framework for contract management can be summarized as follows (Esperne 2010):

4. Action.

- ❖ This is **exploiting opportunities** in the contract life cycle for implementing risk management, within constraints.

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Sources of risk in contract management: Risk management framework in contract management

- ❑ The process of building a risk management framework for contract management can be summarized as follows (Esperne 2010):

5. Audit and reassessment.

- ❖ Success or failure in risk management depends on **whether the actual occurrence** of treated risks
has **negatively impacted** desired contractual outcomes **beyond expectations.**
- ❖ Risk registers and other monitoring tools **generate data** that can be used to **adjust** risk management plans and strategies.

Sources of risk in contract management: Risk management framework in contract management

- ❑ The process of building a risk management framework for contract management can be summarized as follows (Esperne 2010):

6. Extension.

- ❖ This is **establishing risk management** as an external-facing policy and as an accepted way of doing business under contract with third parties.
- ❖ While **risk management** in contract management can be actioned unilaterally, mutual acceptance of risk management can **open new dimensions** to contract management.

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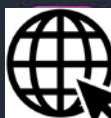
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