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## **EDGARS CB** **A New Memory Tool for Costers**

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**&**



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# Abstract

Are you befuddled by what it takes to do a cost estimate? What kind of information is used and when is it needed so that a defensible cost and benefits estimate can be provided to the investment decision authority? Since beginners and professionals alike rely on tricks-of-the-trade to help get their job done, a new and easy memory aid is presented.

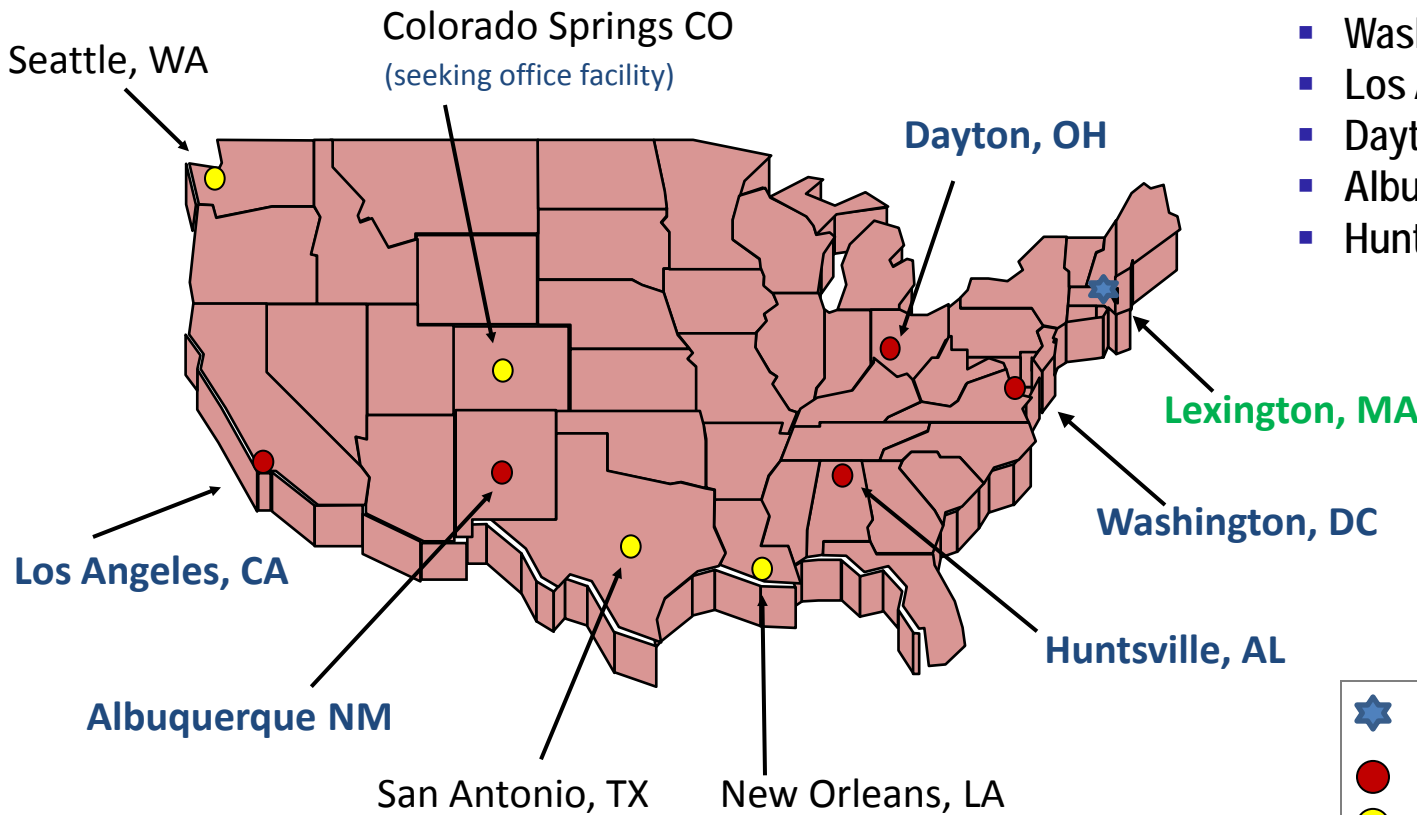
EDGARS-CB is a mnemonic that helps cost and benefit analysts recall the kinds and sequence of information needed to develop their estimate. It is useful for recalling who should be giving you information and for phrasing your work. Use it for quickly explaining the cost process to program managers, customers, peers, and mentored novices.

Whether the investment decision is about computer systems, weapons platforms, or software, and regardless if the estimate methodology is engineering build up, analogy, or parametric, EDGARS-CB applies. Each letter represents a group of high-level but essential elements of a cost estimate and the order in which that information is needed.

These elements will be thoroughly described as well as cross-referenced to several CBoK modules for further in-depth reading. EDGARS CB makes sense for assisting developing cost estimates and is easy to remember.



# Snapshot of Quantech Locations



## Office Openings

- Lexington, MA 2001
- Washington, D.C. 2004
- Los Angeles, CA 2005
- Dayton, OH 2006
- Albuquerque, NM 2007
- Huntsville, AL 2011

	<b>Corporate Office</b>
	<b>Office Location</b>
	<b>Operating Location</b>



# Snapshot of Quantech Mission and Values

**Mission:** *“Quantech Services is Committed to be the Trusted Partner in Delivering Customer Service Excellence”*

**Values:** *Are the recipe that allows us to pursue excellence in our people, products and processes*

- Committed to Our Customers, Employees and Communities
- Highest Standards of Ethical Behavior and Professional Integrity
- Spirit of Innovation
- Pledge to Quality
- Passion to be the Best



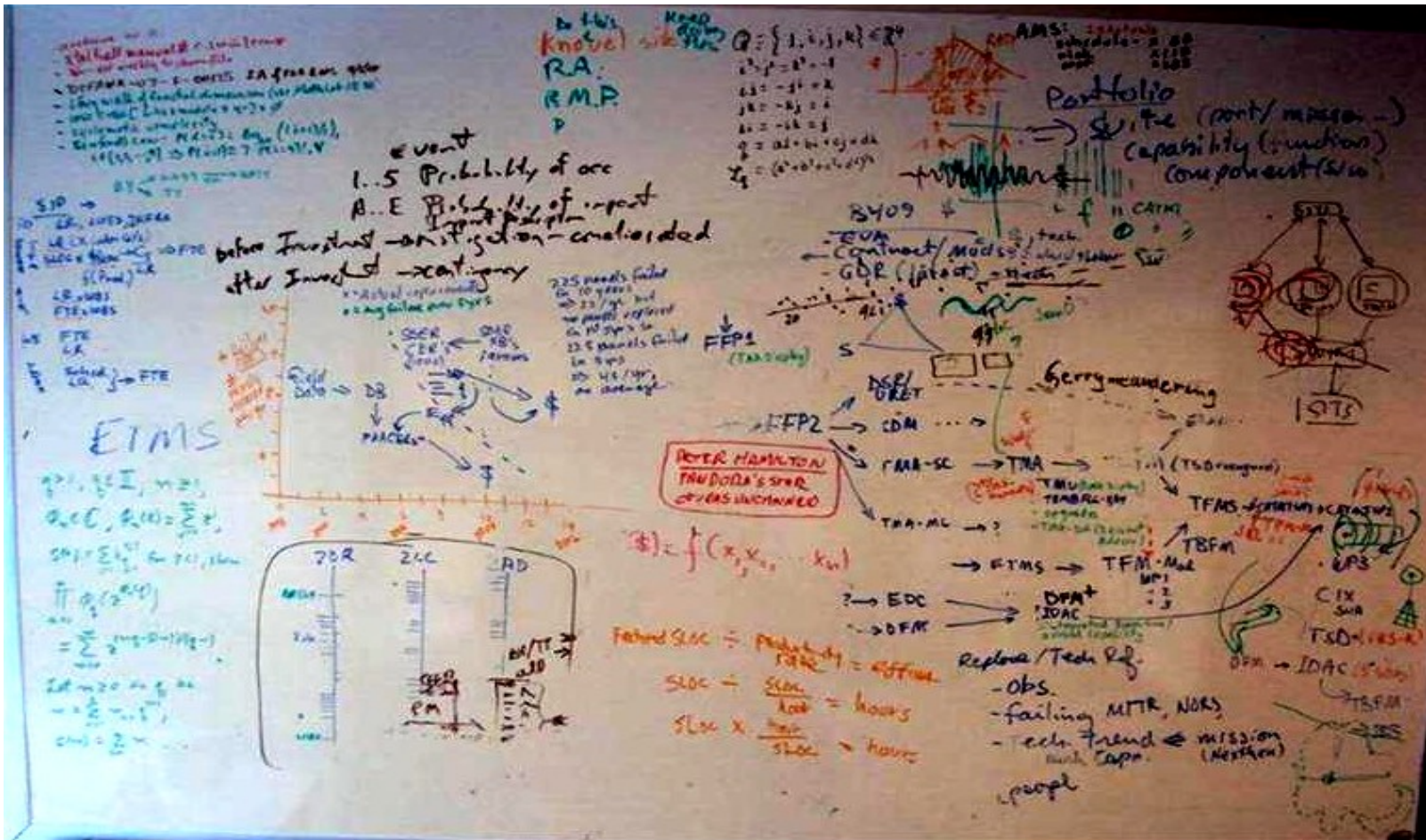


# Snapshot of Quantech Facts and Results

- Established 1999 - Privately Held – Proven track record of success
- Average Revenue Growth - Over 72% per Year thru 2011 @ \$80M
- Employees - ~375; 58% cleared Secret, 39% cleared TS, 3% Other
- Support numerous SAPs
- Growth sustained from continuous record of Excellent Customer CPARs
- 2011 Annual Survey - 98.5% Satisfaction Rating from Employees
- Key Customers/Business Areas – ESC, SMC, ASC, MDA, FAA, VA
- Quantech continues to Prime 98% of its Business!
- 7 Time winner of INC-500/5000  
- 2 time winner of Washington Technology's FAST 50 
- Certified QMS since May 2007   
*A Certified Business Services Provider*

# Start an Estimate

Does starting a cost estimate make you feel like this?



# A Decision Support System . . .

Ever feel the urge to use that special Decision Support System tool . . .  
a coin!



# EDGARS-CB

## A New Memory Tool for Costers

### What's a Memory Tool?

- Something that helps get the job done
- Is repeatable and accurate
- Easy to use trick-of-the-trade



### What's new about EDGARS-CB?

- Mnemonic to help recall and organize the general sequence of what is needed to do a cost estimate
- For costers . . . and everybody associated with the development of a cost.
- Helps explain the cost process to customers, program managers, peers, mentored novices





# What EDGARS-CB is about

## ***Whereas:***

- Costers rely on their training, experience and tools in building their cost estimates, and
- Remembering what is needed and when it's needed is a challenge for every coster, and
- Investment decisions for computer systems, weapons platforms, software, construction, etc., need accurate cost basis, and
- A defensible cost must be developed regardless of the methodology

## ***Therefore:***

- The development of a cost estimate is made easier and defensible for the coster who uses EDGARS-CB

## ***Wherein:***

- Each letter represents a group of high-level but essential elements of a cost estimate and the order in which that information is needed.

# E - Engineering

- Architecture
- Technical Requirements
- Telecommunications
- Interfaces
- Data Dictionary
- Databases
- Prior Systems
- SOW, CARD
- AV, SV, OV Diagrams
- Supply Chains
- Construction Support
- User Needs
- Materials
- Mission Needs Statement
- “As Is” and “To Be” Descriptions
- CONOPS, COOP
- Implementation Strategy and Plan
- Performance Specifications
- System Design Specifications
- Facts about System



# D - Dependencies

- Systems Inter-relationships
- LOE Constraints
- Vendors
- Existing Systems
- Parallel Processing Needs
- Systems Availability & Impacts
- Management Culture
- Best Practices
- Funding
- Politics
- Contract Type
- Data Availability
- Vetting & Approval Process
- Schedules
- Technology Refresh
- Technology Opportunity & Resources



# G - Ground Rules

- WBS or CBA or OBS
- What to follow & who said it
- Escalation Factors
- Cost Team, Time Frame
- Confidence Limits
- CE Expiration Date
- Appropriations and Phasing
- Unique Recurring & Non-recurring Elements
- Compliance – SOA, FIPS, Protocols, OSHA



Three percent exceeds 2 percent  
by 50 percent, not by 1 percent.

# A - Assumptions



Is each Assumption necessary and sufficient for . . .

# A - Assumptions

- Overarching the Entire Program
- Specifics to each Cost Element
- Assignment by Direction
- Generation by Cost Team
- The Cost Factors Used
- The Acquisition Strategy
- Actual or Analogous Data
- Missing Information



In God we trust.  
All others must bring data.

# R - Risks

- **Risks**
  - How Evaluated & Assigned
  - Probability of Occurrence & Impact
  - Cost Element Correlation Factors & Risk Distributions
  - Mitigation & Contingency Strategies
- **Resources**
  - Labor to do Cost & Benefits
  - Materials and Money
  - Time and Facilities
- **Requirements**
  - Gotta have these by now (see Engineering)

Statistics means never  
having to say you're certain.



# R - Risks



The risks we put up with.

Nothing can really be costed until the Requirements are understood . . .  
and Documented !



# S - Safety

- **Safety** – of people, system, site, environment
- **Security** - of systems, data, facilities, contracts
- **Schedule** – of investment decision process and of product implementation process
- **Shortfalls** – of what program is to fix
- **Sensitivity** – of cost elements to variations in assumptions, correlations, and risks



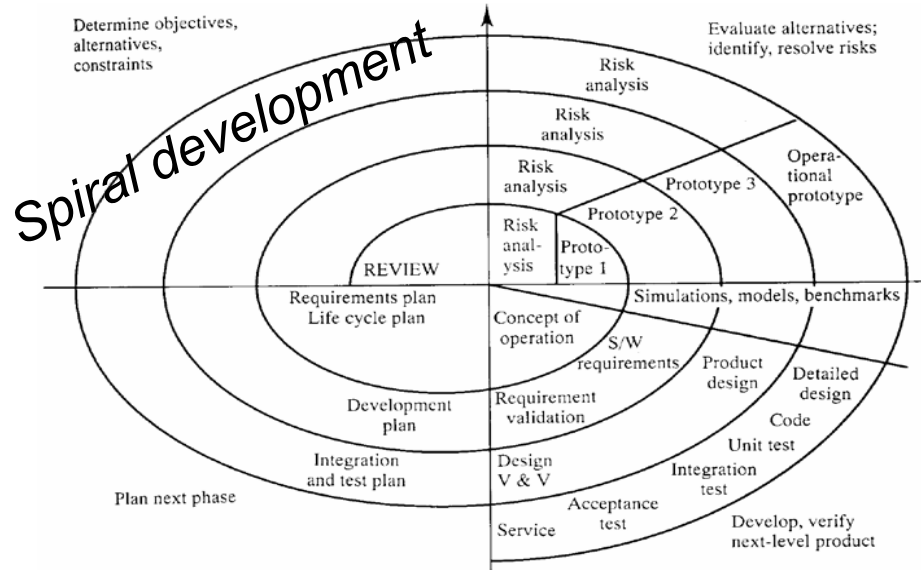
# C - Costs

- Estimating Models Used (for each WBS element?)
  - Analogy
  - Expert judgment
  - Parametric & Factors
  - Top-down or Bottom-up
  - Price-to-win
  - CERs
- Sources: Vendor, Bid Data, Actuals, Budget Data
- Staff Loading – what’s the cost for the cost estimate?
- Compliance with GAO, Agency, Industry Standards
- Cost Basis of Estimate & other Output Documents





# Regardless of S/W Dev. Method



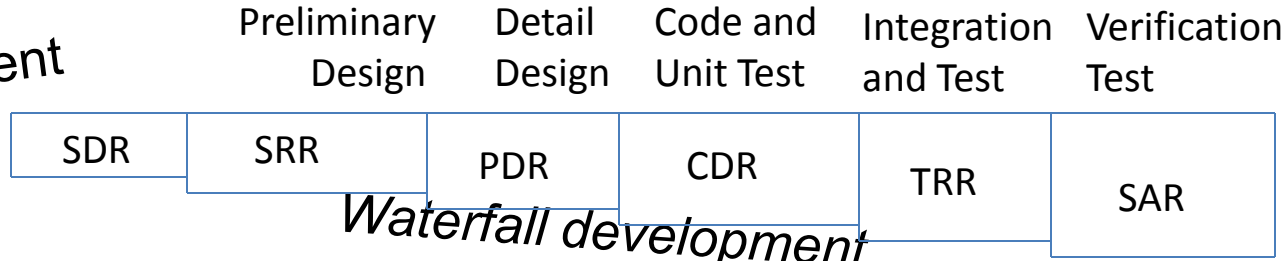
*Evolutionary development*



*Agile development*

*Rapid application development*

*Incremental development*



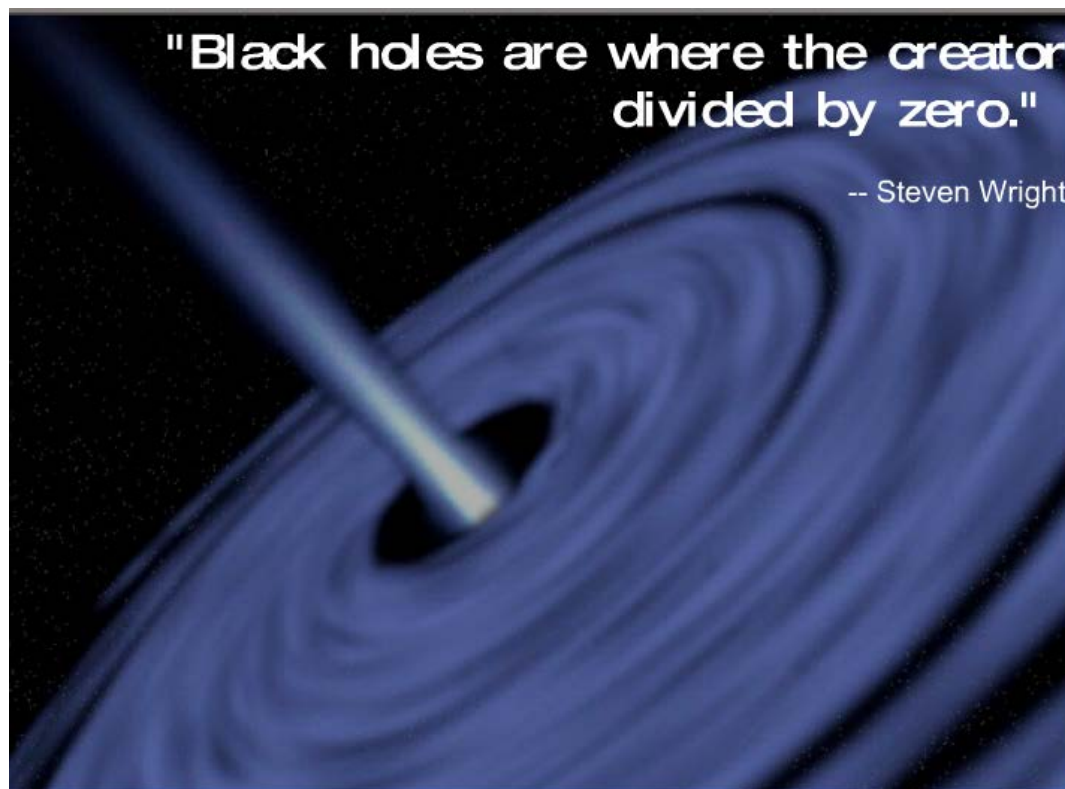
*Waterfall development*

# Math Minder



**\$K or \$M - Decimals have a point!**

# And that math oops!



How well do you manage divisors linked to other worksheets?

## B - Benefits

- Applied to All Alternatives and as AoA
- Types of Benefit
  - Cost Savings
  - Cost Avoidance
  - User Benefits
  - Efficiency / Productivity Gains
  - Safety Benefits
- How Economic Factors Derived
- Inflations & Discount Rates
- Economic Decision Factors
  - Cost / Benefit Ratios
  - Net Present Value
  - Payback Years
  - Net Cash Flow
  - Internal Rate of Return
- BBOE, other Related Documents
- Funding Profile
- Budget Impact

I asked a statistician for her phone number ...  
and she gave me an estimate.

# EDGARS-CB and CEBoK

EDGARS-CB helps costers recall the info and timing for an investment decision and references are in CEBoK Modules

## EDGARS-CB

- E** – Engineering
- D** – Dependencies
- G** – Ground Rules
- A** – Assumptions
- R** – Risks
- S** – Safety

- C** – Cost
- B** – Benefits

## Cost Estimating Book of Knowledge



- Module 1, 2, 4, 5, 11
- Module 1, 7
- Module 1, 14
- Module 1, 11
- Module 2, 9
- Module 1, 3, 11

- Module 1, 2, 3, 4, 14
- Module 1, 13, 14



# Summary

- Costers rely on their training, experience and tools in building their cost estimates.
- Remembering what is needed and when it's needed is a challenge for every coster.
- Whether the pending investment decision is about a computer system, weapons platform, or software, and regardless of the cost methodology, the development of an estimate is easier for the coster who recalls EDGARS-CB.



# EDGARS-CB

- Now all the technical, schedule, cost, benefit and procurement info is compiled and defensible for
  - A Recommendation
  - An Investment Decision



Have confidence in your estimate – every one is different!



# Q & A

