



Joint Space Cost Council

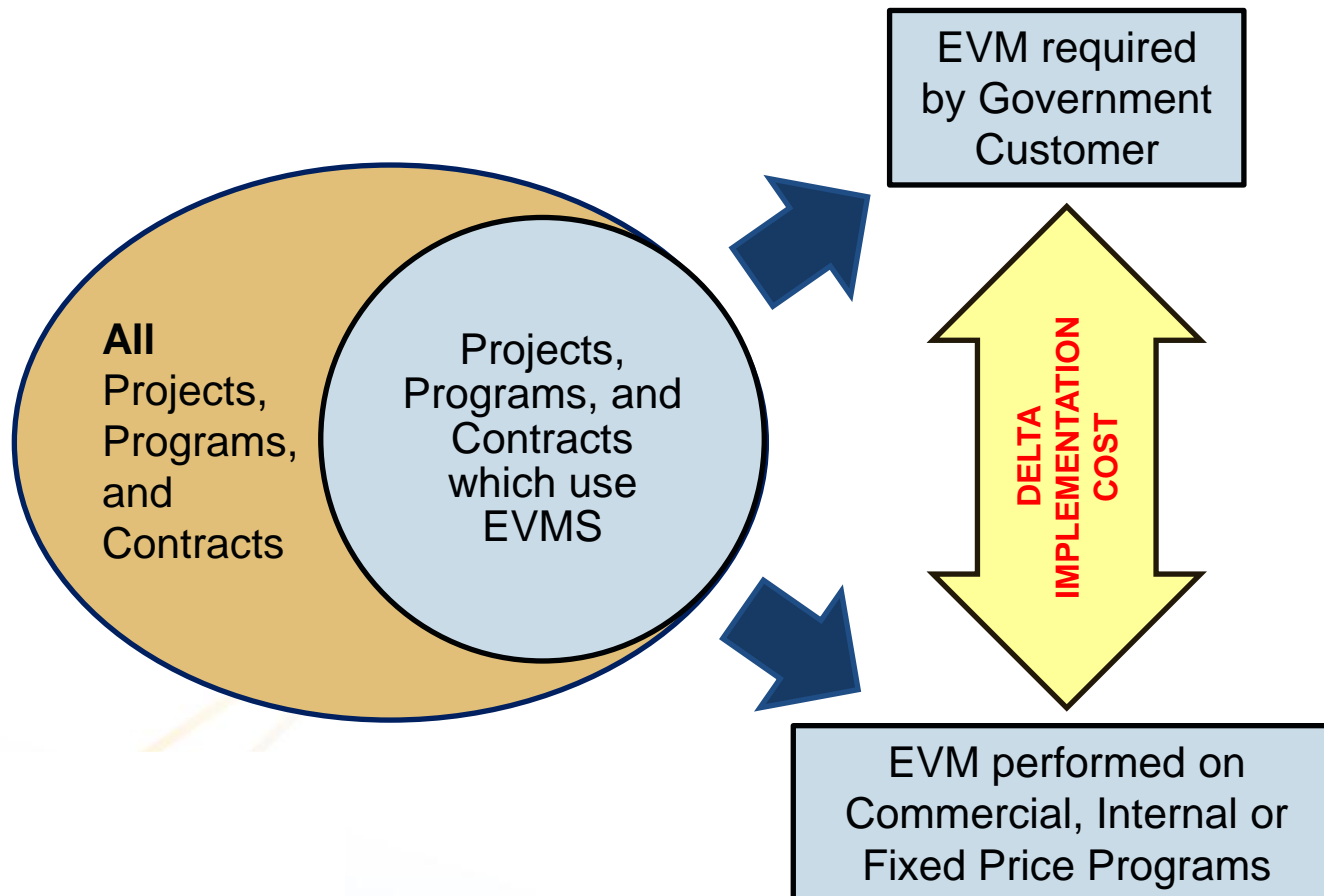
Better EVM Implementation

April 2014

Better EVM Implementation Study Scope



The scope of the survey is the **Delta Implementation Cost** between EVM implemented on Government Programs and EVM implemented on Commercial, Internal or Fixed Price Programs





Cost vs. Benefits Spectrum



Survey Framework: 78 Cost Areas Identified by Industry



1. Variance Analysis	6. WBS	10. Customer Directed Changes
01.01 Reporting Variance at Too Low a Level of the WBS	06.01 Level	10.01 Delta IBRs
01.02 Volume - Lack of Meaningful Thresholds	06.02 Recurring/Non-Recurring	10.02 Baseline Change/ Maintenance
01.03 Frequency of Variance Analysis Reporting	06.03 Clin Structure Embedded	10.03 Baseline Freeze Period
01.04 Number of Approvals Before Submitting Variance Analysis	06.04 Non-Conforming	10.04 Changes to Phasing of Contract Funding
01.05 Developing Corrective Actions	06.05 Conforming	10.05 Baseline by Funding, not Budget
01.06 Tracking Corrective Actions	06.07 Unique Customer Driven Requirements	10.06 Poorly Defined Scope
2. Level of Control Account	7. Documentation Requirements	10.07 Level of Control Account
02.01 Plan	07.01 Interim WADs	10.08 Delay in Negotiations
02.02 Analyze	07.02 IPMR/CPR/IMS	10.09 Volume of Change
02.03 Report	07.03 Logs	11. Subcontractor EVMS Surveillance
02.04 Volume of Corrective Actions	07.04 EAC/CEAC	11.01 Customer Involvement
3. Integrated Baseline Reviews	07.05 Frequency of Reporting	11.02 Duplication of Prime/Customer Review
03.01 Attendance	07.06 Level of Detail	11.03 Supplier Cars Flow to Prime
03.02 Frequency	07.07 Accounting Reconciliation	12. CLINs Reporting
03.03 Depth	07.08 Expectation that Every Doc Stands Alone Drives Redundancy	12.01 Multiple CLINs
03.04 Data Requests	07.09 Overly Prescriptive	12.02 Tracking MR
03.05 Overlap with Surveillance	8. Interpretation Issues	12.03 Embedding Clins in WBS
4. Surveillance Reviews	08.01 Differing Guidance	12.04 Separate Planning, Tracking & Reporting Reqmts
04.01 Attendance	08.02 Sub Invoice Trace	12.05 CLIN Volume
04.02 Frequency	08.03 Lack of Understanding/Inexperienced Auditors	13. IMS
04.03 Breadth/Depth	08.04 Schedule Margin	13.01 Integration of Subs
04.04 Data Requests	08.05 Inconsistent Interpretation Among Reviewers	13.02 Volume of Tasks/Level of Detail
04.05 Dcma Internal Reviews by Cage Code	08.06 Limited Recognition of Materiality / Significance of Issues	13.03 45 Day NTE Task Durations
04.06 Layers of Oversight	9. Tools	13.04 Float NTE 45 Days or Some Number
04.07 Derived Requirements	09.01 Inadequate EVM Tools	14. Reporting Requirements
04.08 Zero Tolerance for Minor Data Errors	09.02 Cost Schedule Integration	14.01 Tailoring
04.09 Prime/Subcontractor Surveillance	09.03 Prime Sub Integration	14.02 Add'T Reqmts Beyond CDRLs
5. Maintaining EVM System	09.04 Materials Mgmt Integration	14.03 Volume of Ad Hoc / Custom Reports
05.01 Forms		15. Funding/Contracts
05.02 Processes		15.01 Changes to Phasing of Contract Funding
		15.02 Incremental
		15.03 Volatility Drives Planning Changes

Cost Areas are the level that the survey was administered

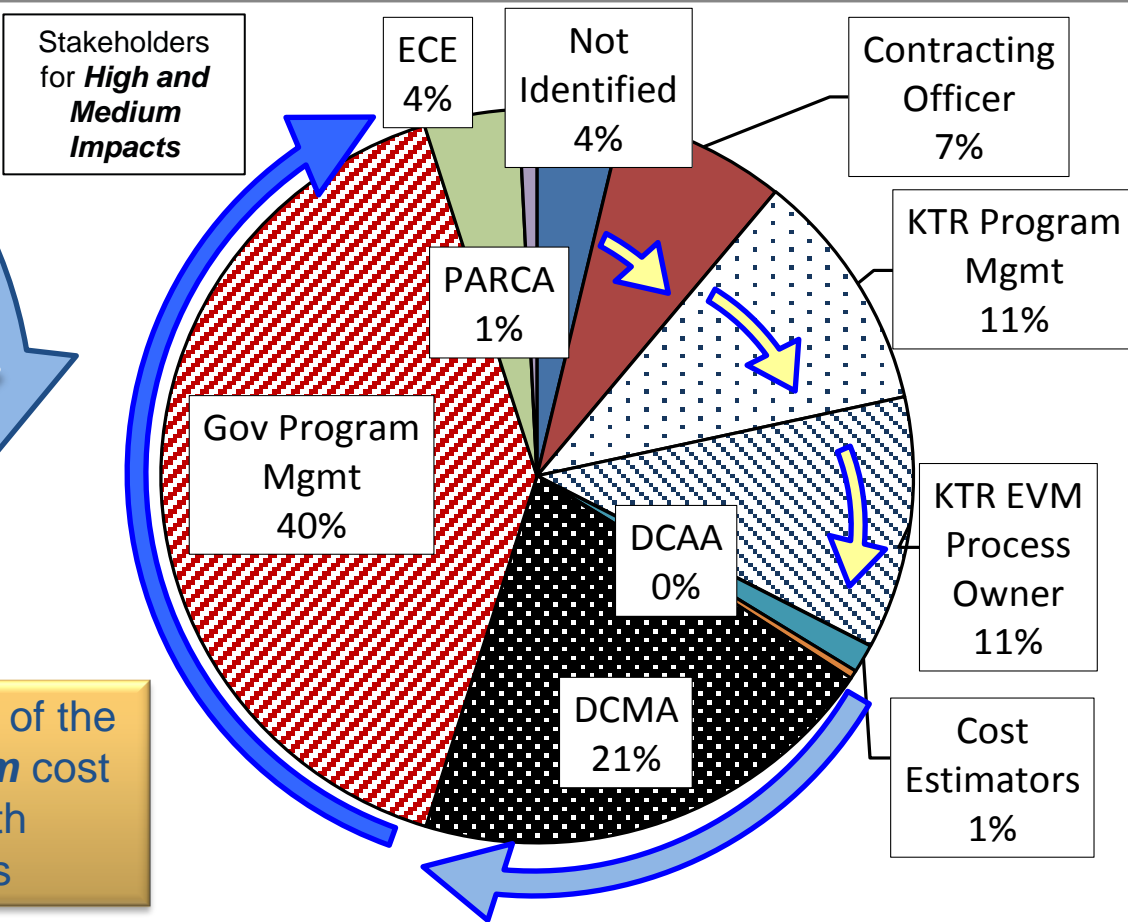
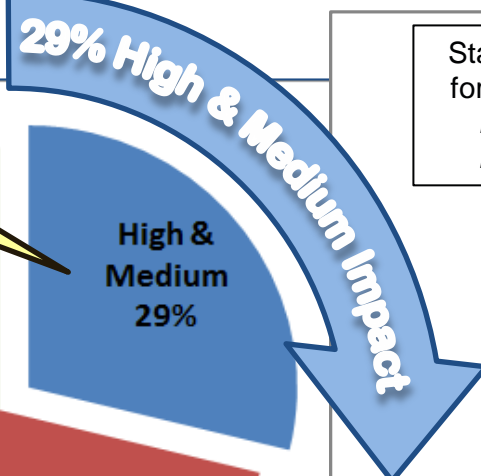
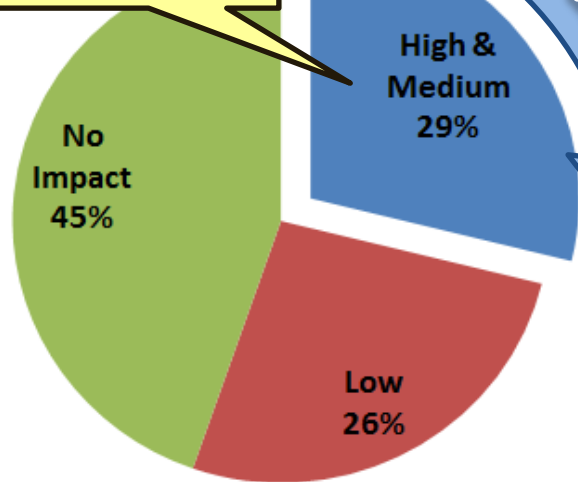
Primary Stakeholders for the 29% of Cost Areas with High and Medium Impacts to the Cost of EVMS

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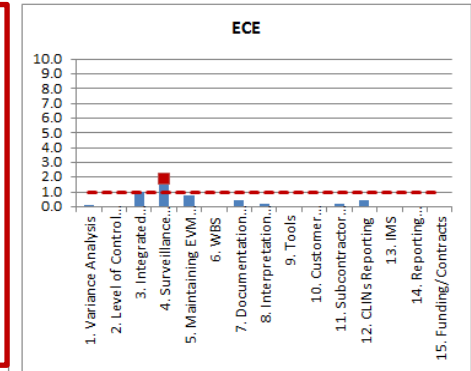
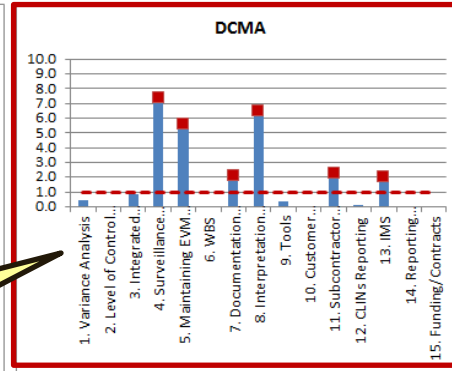
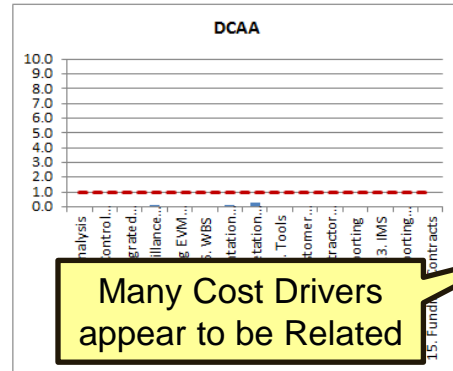
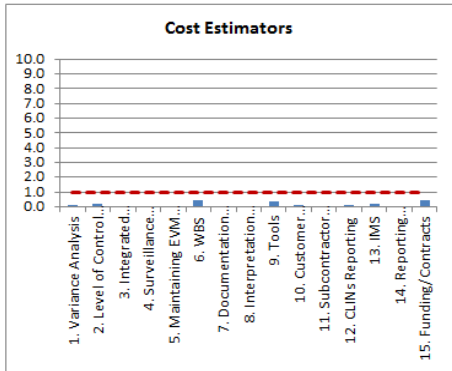
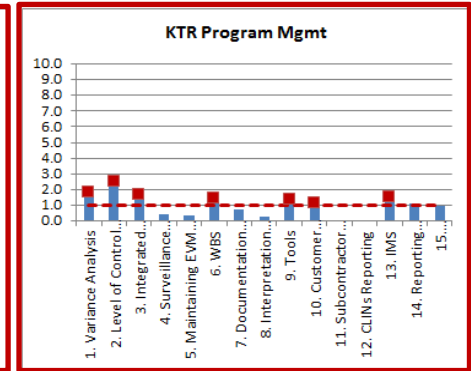
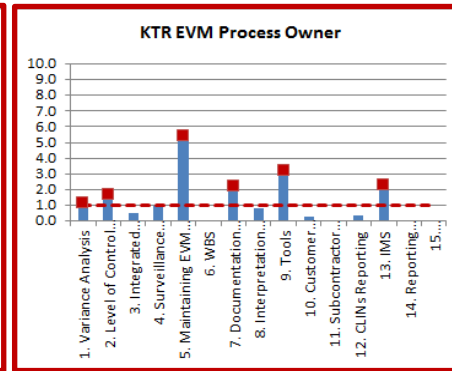
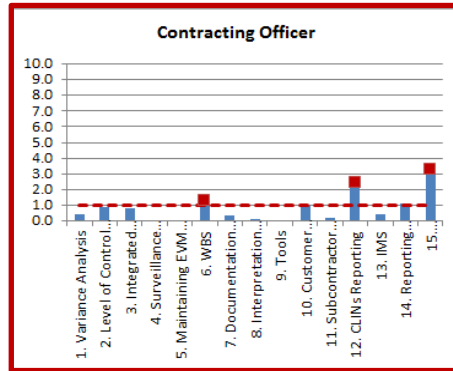
This presentation explores these 1,035 High and Medium Impacts



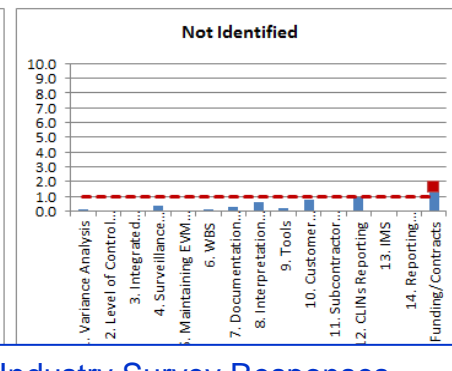
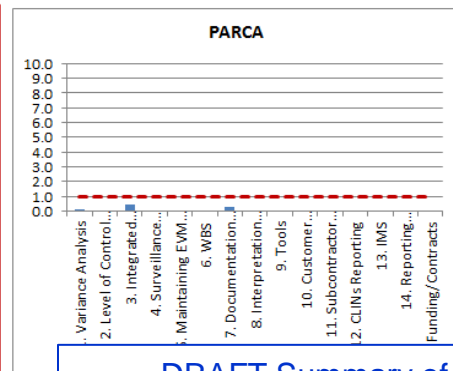
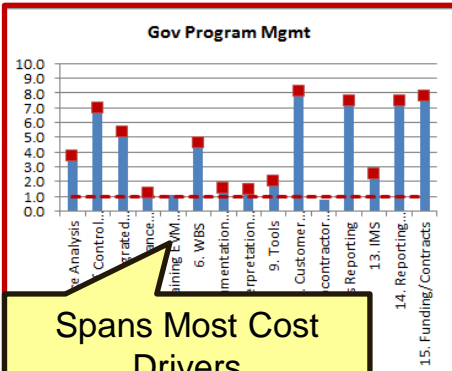
29% of all survey data points (1,035 of the 3,588 answers) has **High to Medium** cost premium identified to comply with Government EVM requirements

Government Program Management is Primary Stakeholder for 40% of the **High and Medium Impacts** followed by DCMA with 21%. KTR EVM Process Owner, KTR Program Mgmt, and Contracting Officer are the only other stakeholders identified with any real significance.

Dashboard of 15 Cost Drivers by Stakeholder Using Stakeholder High-Medium Index



Many Cost Drivers appear to be Related



KEY

- Top Quartile (Red bar)
- High-Medium Index (Blue bar)

Spans Most Cost Drivers

Stakeholders Percentages by Cost Driver



Government Program Mgmt Cuts across all Cost Drivers

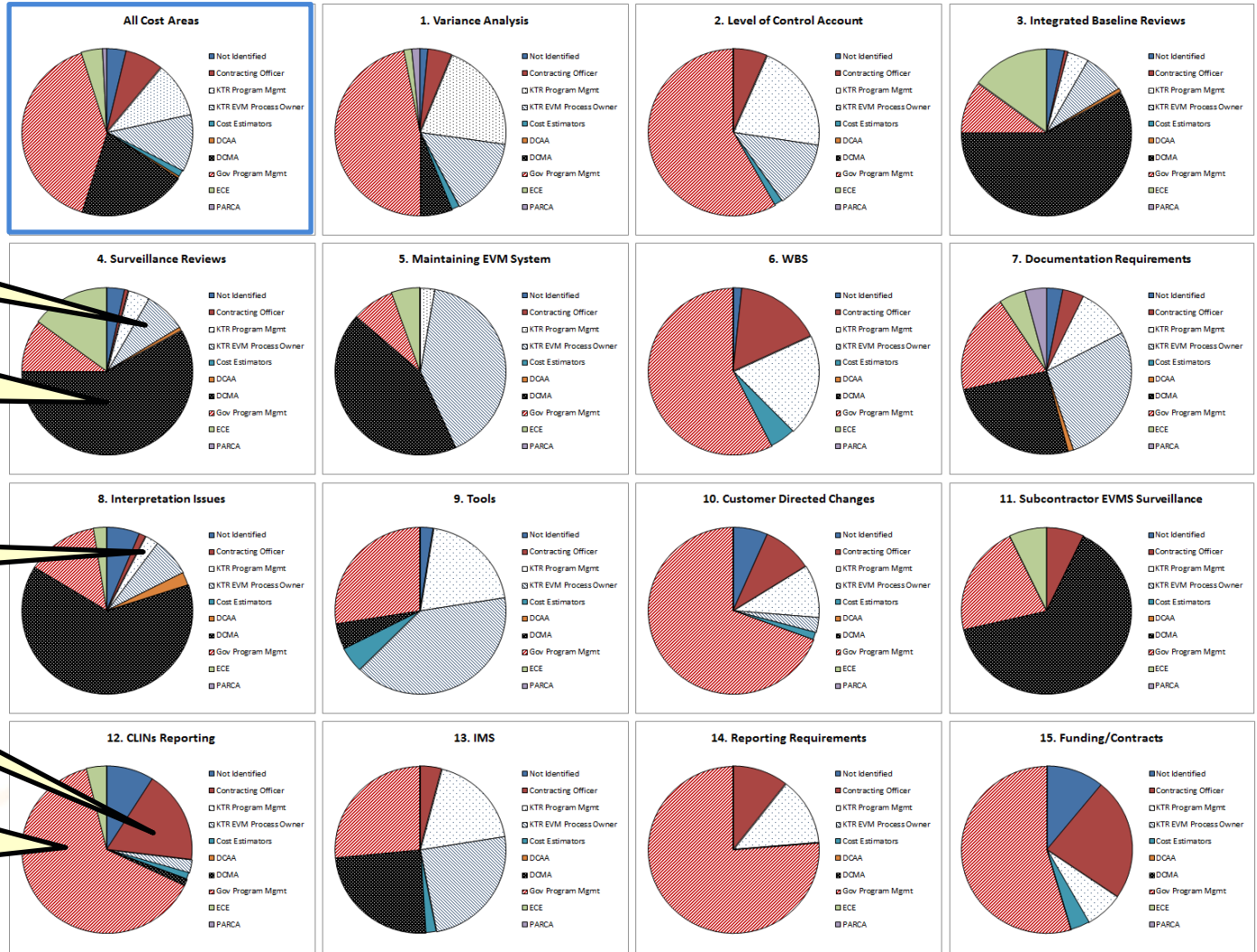
KTR EVM Process Owner

DCMA is Significant in Selective Cost Drivers

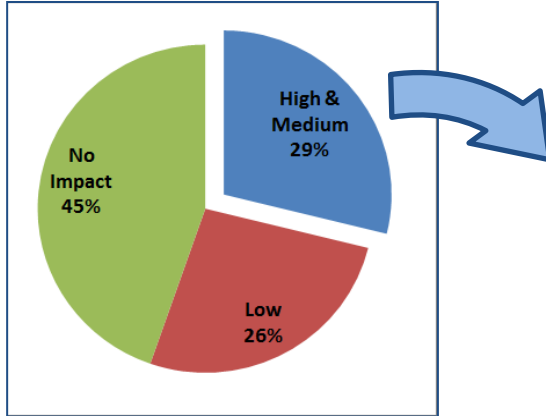
KTR Program Mgmt

Contracting Officer

Government Program Mgmt is Significant in Multiple Cost Drivers



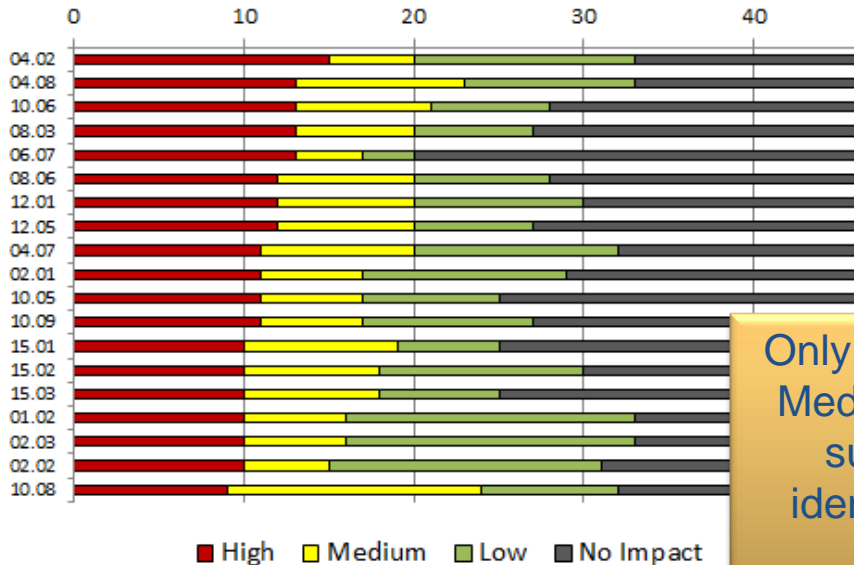
Total High and Medium Impacts Identified in Survey



Examples of Survey Results Identifying Cost Areas with Significant Total High Impact (of 46 Programs):

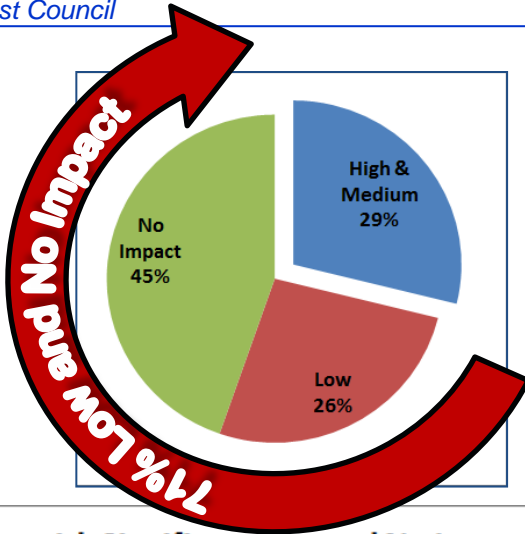
- 04.02 Frequency [Joint Surveillance Review]
- 04.08 Zero tolerance for minor data errors
- 10.06 Poorly definitized scope
- 08.03 Lack of understanding/inexperienced auditors
- 06.07 Unique customer driven requirements
- 08.06 Limited recognition of materiality / significance of issues
- 12.01 Multiple CLINs
- 12.05 CLIN Volume
- 04.07 Derived Requirements
- 02.01 Plan
- 10.05 Baseline by Funding, not budget
- 10.09 Volume of Change
- 15.01 Changes to phasing of contract funding
- 15.02 Incremental
- 15.03 Volatility drives planning changes
- 01.02 Volume - lack of meaningful thresholds
- 02.03 Report
- 02.02 Analyze
- 10.08 Delay in Negotiations

Cost Areas with Significant High Impacts



Only 10.08 (Delay in Negotiations) identified High and Medium Impacts for more than 50% of the programs surveyed (24 of 46) - Only 13 Cost Areas were identified as High or Medium Impact for 19 or more (40%) or of the Programs surveyed

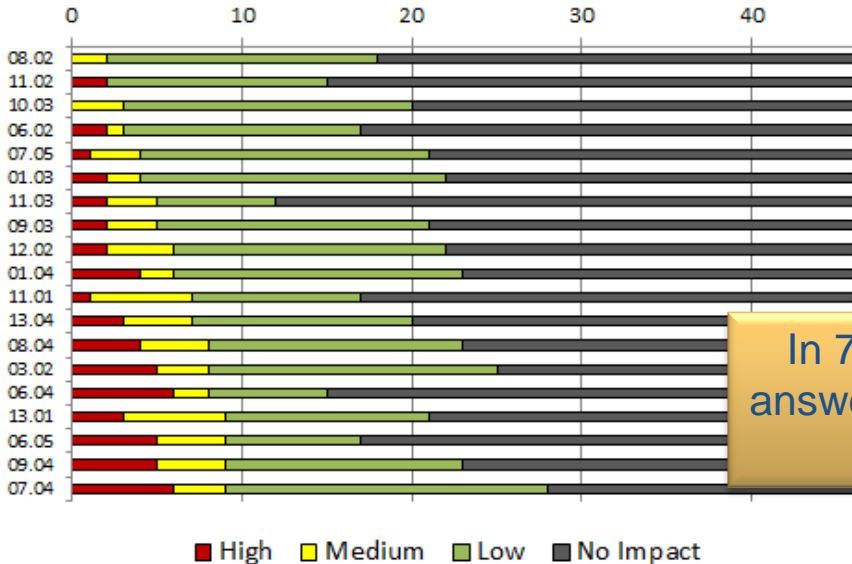
Total Low and No Impacts Identified in Survey



Examples of Survey Results Identifying Cost Areas with Significant Total Low and No Impact (of 46 Programs):

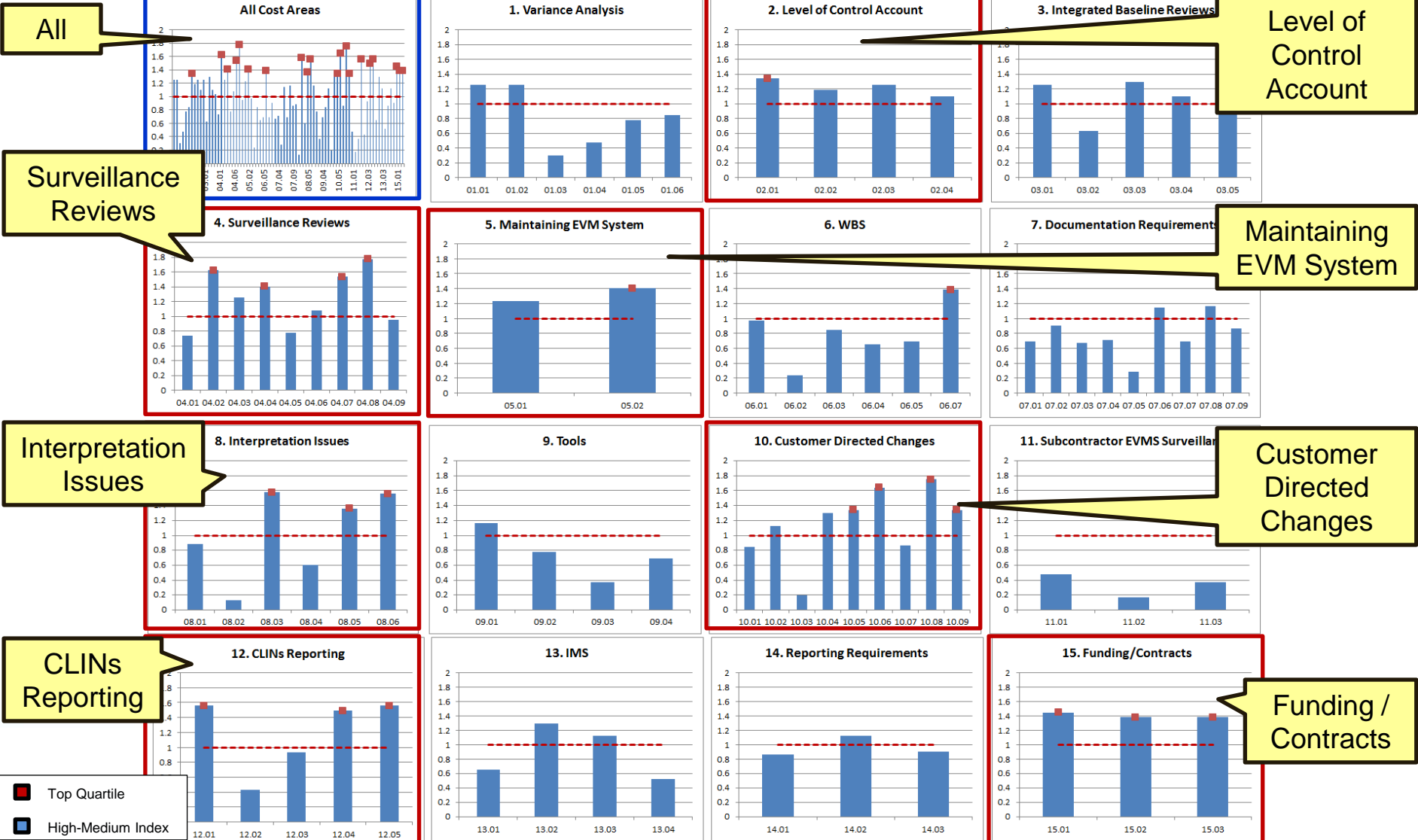
- 08.02 Sub Invoice trace
- 11.02 Duplication of Prime/Customer Review
- 10.03 Baseline freeze period
- 06.02 Recurring/non-recurring
- 07.05 Frequency of Reporting
- 01.03 Frequency of Variance Analysis Reporting
- 11.03 Supplier CARs flow to Prime
- 09.03 Prime Sub Integration
- 12.02 Tracking MR
- 01.04 Number of Approvals before submitting Variance Analysis
- 11.01 Customer Involvement
- 13.04 Float NTE 45 days or some number
- 08.04 Schedule Margin
- 03.02 Frequency (Integrated Baseline Reviews)
- 06.04 Non-conforming (WBS)
- 13.01 Integration of Subs
- 06.05 Conforming (WBS)
- 09.04 Materials Mgmt Integration
- 07.04 EAC/CEAC

Cost Areas with Significant Low and No Impacts



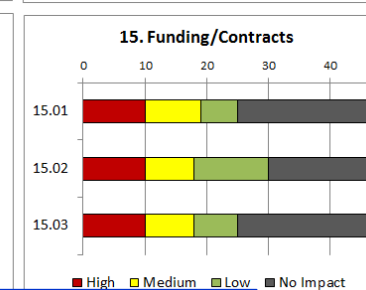
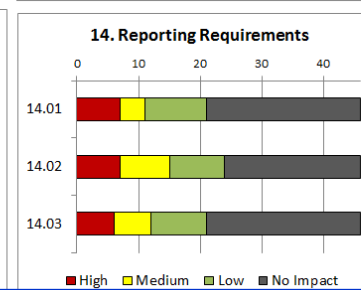
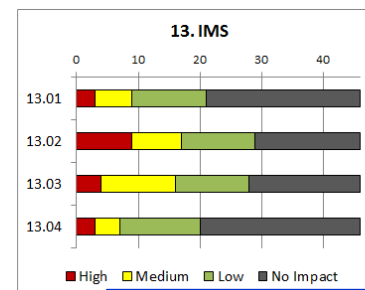
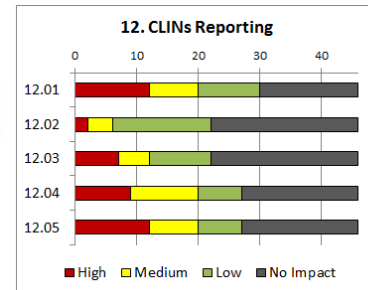
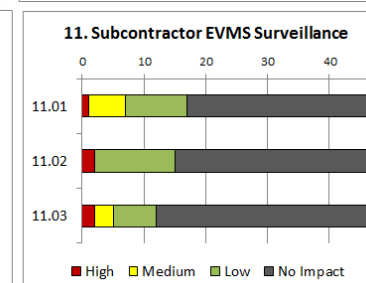
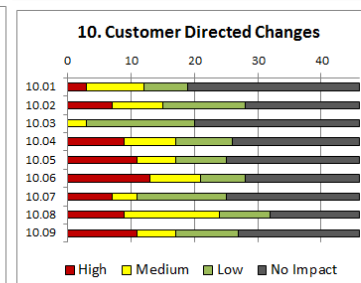
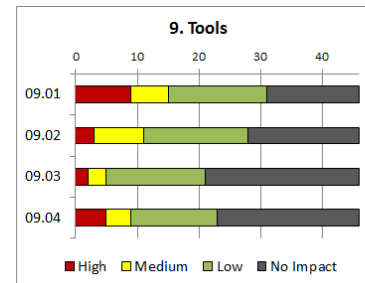
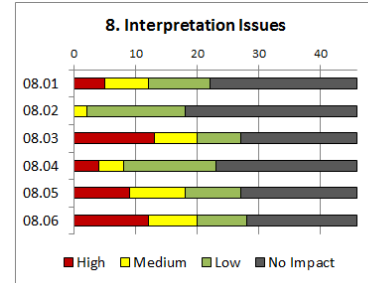
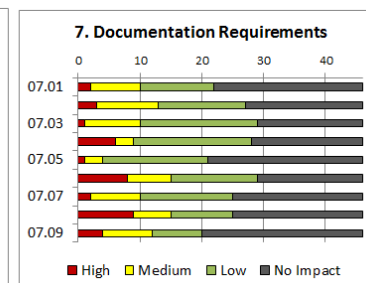
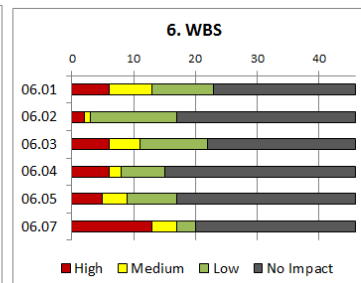
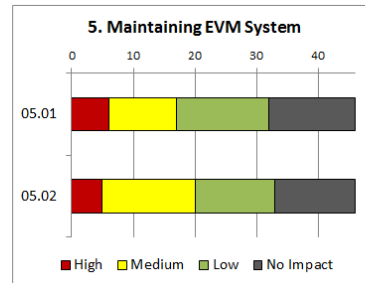
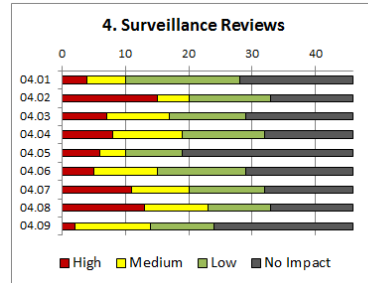
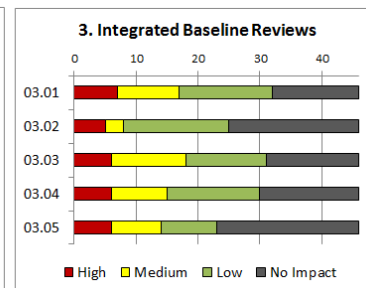
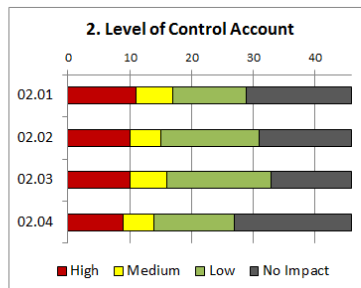
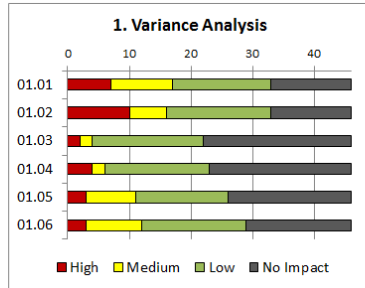
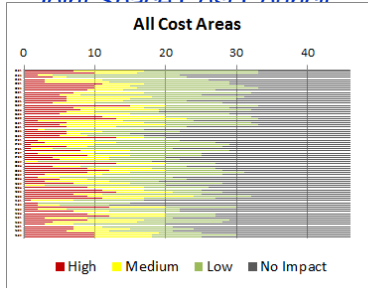
In 71% of all survey data points (2,553 of the 3,588 answers) there is Little to No cost premium identified to comply with Government EVM requirements

Cost Driver Dashboard of Top Quartile Cost Areas on the High-Medium Index



Breakout of All 1035 High and Medium Impacts by Cost Area

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Is this really the most effective way to group the Cost Areas?



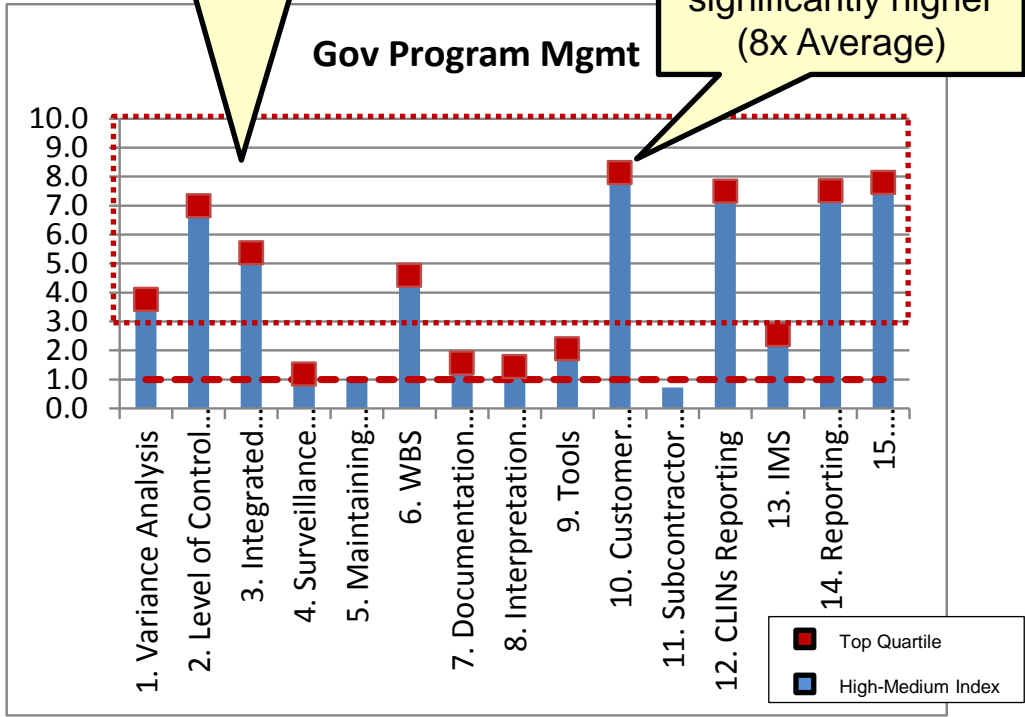
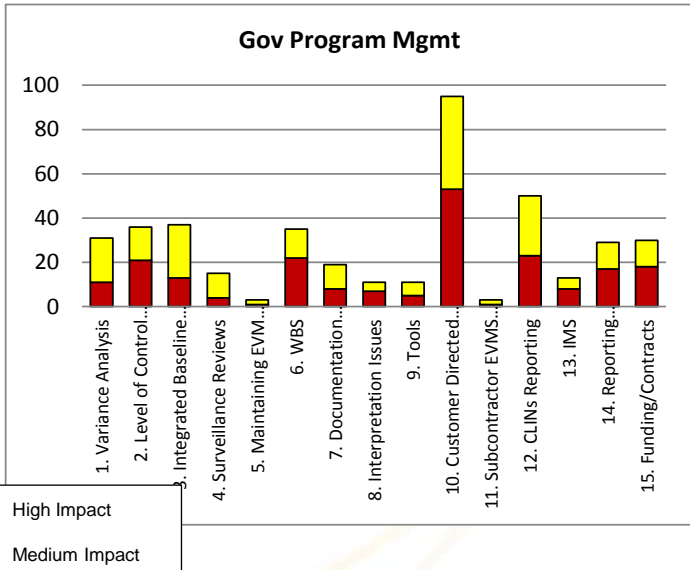
Government Program Management



The Index represents how the High-Medium Impacts for this Stakeholder Indexed to a normalized value with all other Stakeholders – Government Program Management is TOP QUARTILE for 13 of 15 Cost Drivers

Eight Government Program Management Cost Drivers are more than 3x Average

Customer Directed Changes is significantly higher (8x Average)



Government Program Management Significant Drivers appear to run the spectrum and are not necessarily tied together

Government Program Management Impacts



Government Program Management Stakeholder generated at least one High Impact in 60 of 78 Cost Areas (77%) and at least one High or Medium Impact in 73 of 78 Cost Areas (94%)



Analyzing the Data – Views Available

Cost Driver Breakout



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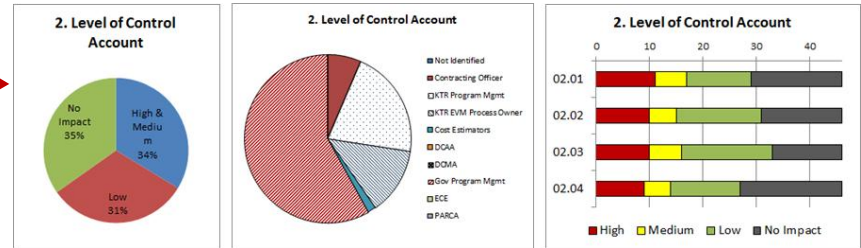
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1 Cost Drivers – HMI View



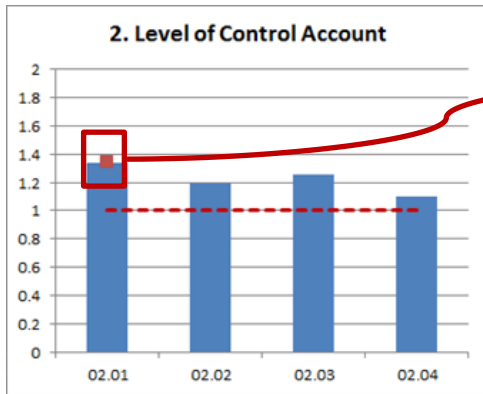
Identify all high impact cost drivers

2 Cost Driver/Stakeholder



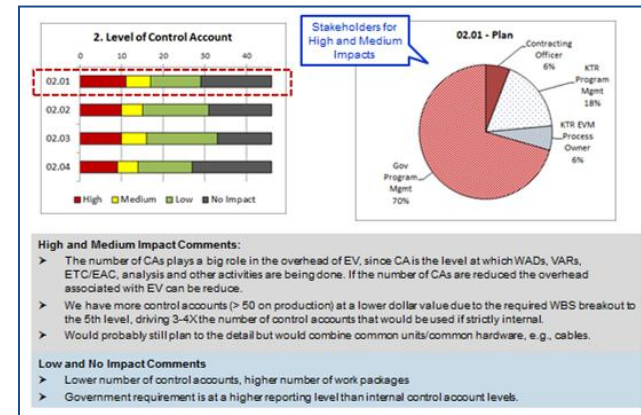
Cost Driver showing rating breakout and stakeholder

3 HMI within a Cost Driver



High impact Cost Areas, relative to others

4 Cost Area/Stakeholder/Comments

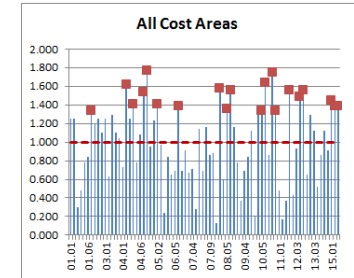


Breakout of Cost Area results with comments

Links to Top Quartile (Sorted Highest to Lowest)



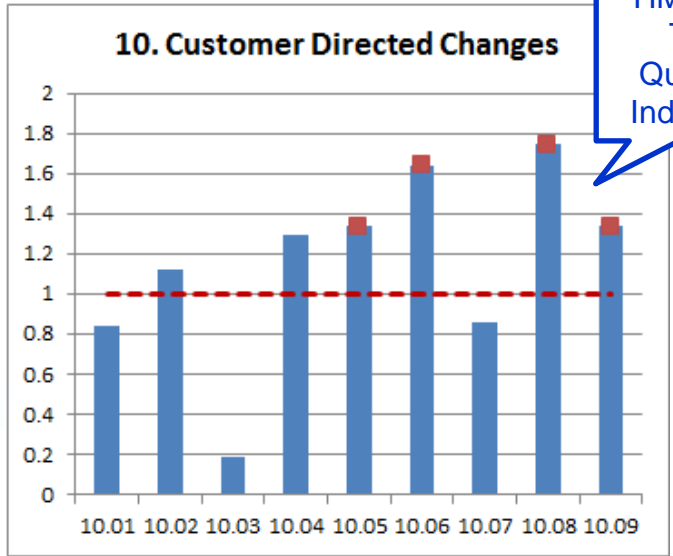
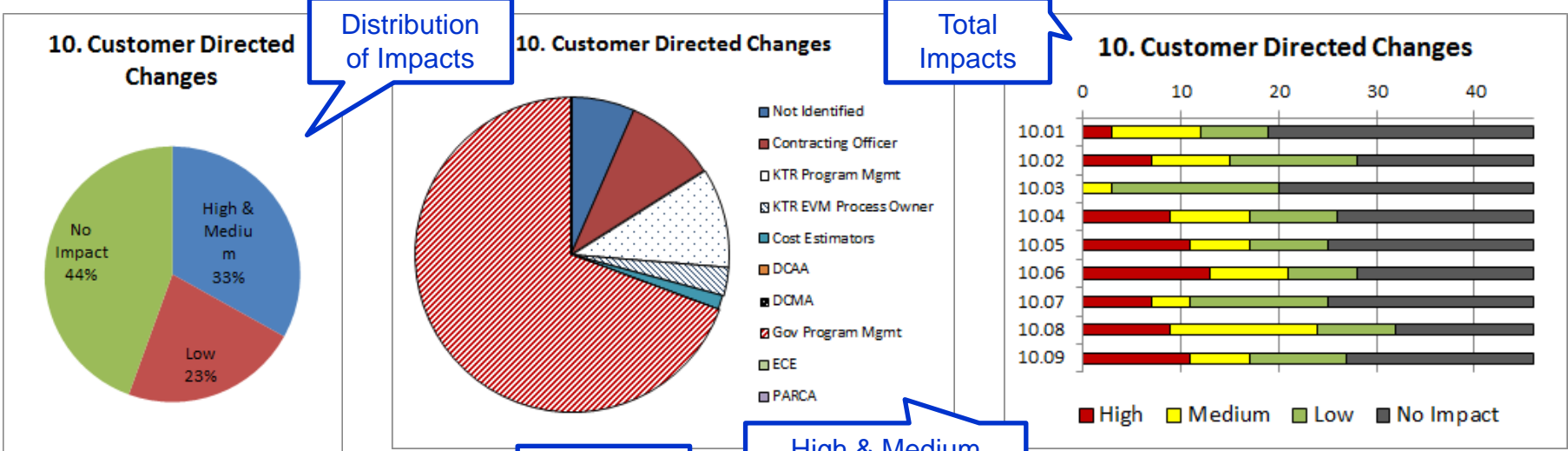
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- 1.751 [10.08](#) - Delay in Negotiations ([10. Customer Directed Changes](#))
- 1.643 [10.06](#) - Poorly definitized scope ([10. Customer Directed Changes](#))
- 1.621 [04.02](#) - Frequency ([4. Surveillance Reviews](#))
- 1.578 [08.03](#) - Lack of understanding/inexperienced auditors ([8. Interpretation Issues](#))
- 1.557 [08.06](#) - Limited recognition of materiality / significance of issues ([8. Interpretation Issues](#))
- 1.557 [12.01](#) - Multiple CLINs ([12. CLINs Reporting](#))
- 1.557 [12.05](#) - CLIN Volume ([12. CLINs Reporting](#))
- 1.535 [04.07](#) - Derived Requirements ([4. Surveillance Reviews](#))
- 1.492 [12.04](#) - Separate planning, tracking & reporting reqmts ([12. CLINs Reporting](#))
- 1.448 [15.01](#) - Changes to phasing of contract funding ([15. Funding/Contracts](#))
- 1.405 [04.04](#) - Data requests ([4. Surveillance Reviews](#))
- 1.405 [05.02](#) - Processes ([5. Maintaining EVM System](#))
- 1.384 [06.07](#) - Unique customer driven requirements ([6. WBS](#))
- 1.384 [15.02](#) - Incremental ([15. Funding/Contracts](#))
- 1.384 [15.03](#) - Volatility drives planning changes ([15. Funding/Contracts](#))
- 1.362 [08.05](#) - Inconsistent interpretation among reviewers ([8. Interpretation Issues](#))
- 1.340 [02.01](#) - Plan ([2. Level of Control Account](#))
- 1.340 [10.05](#) - Baseline by Funding, not budget ([10. Customer Directed Changes](#))
- 1.340 [10.09](#) - Volume of Change ([10. Customer Directed Changes](#))



Cost Driver 10. Customer Directed Changes (Contains Top Quartile Cost Area)



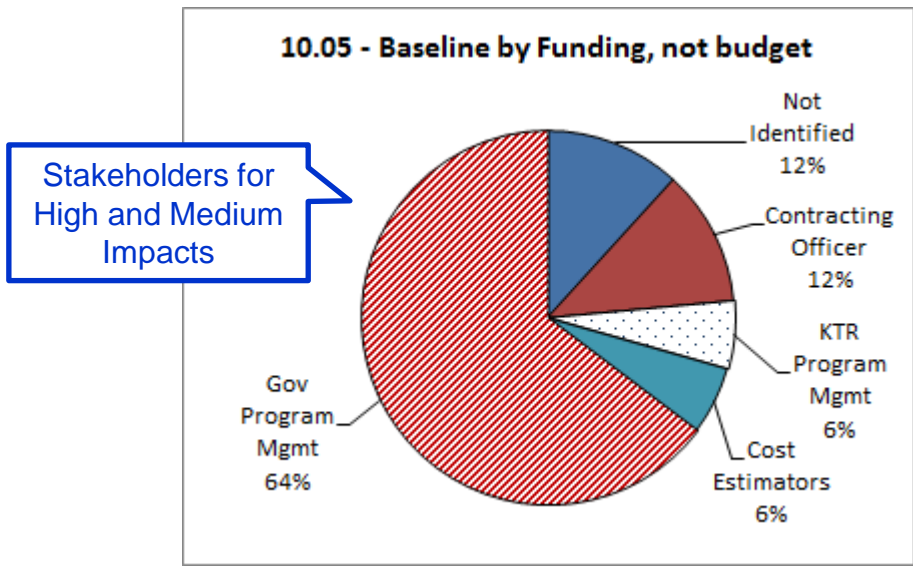
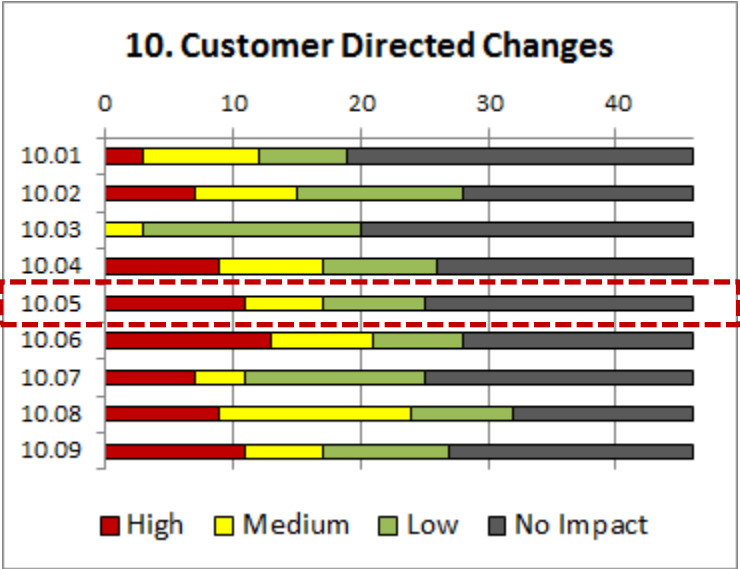
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High & Medium Stakeholders

10. Customer Directed Changes	
10.01	Delta IBRs
10.02	Baseline Change/ Maintenance
10.03	Baseline Freeze Period
10.04	Changes to Phasing of Contract Funding
10.05	Baseline by Funding, not Budget
10.06	Poorly Defined Scope
10.07	Level of Control Account
10.08	Delay in Negotiations
10.09	Volume of Change

10.05 Baseline by Funding, not Budget High-Medium Impact Index - 1.340



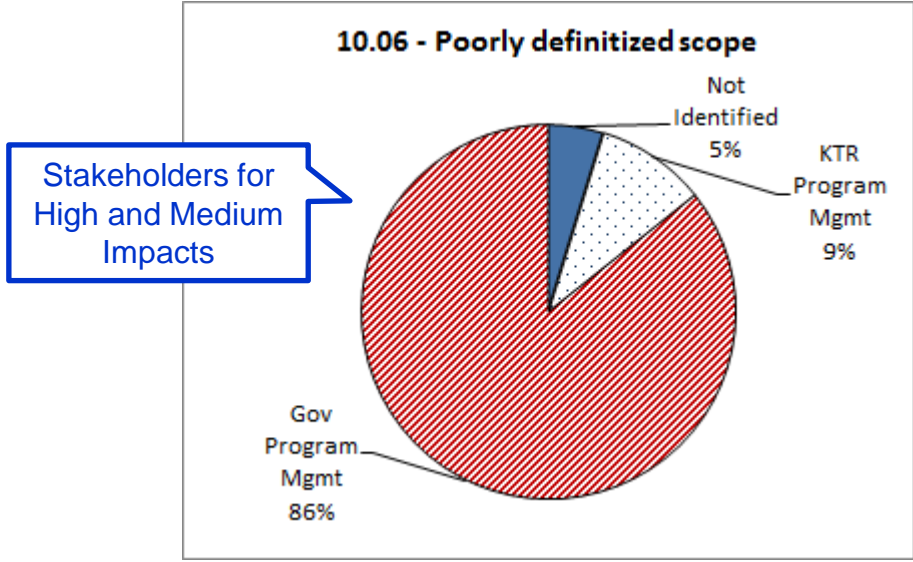
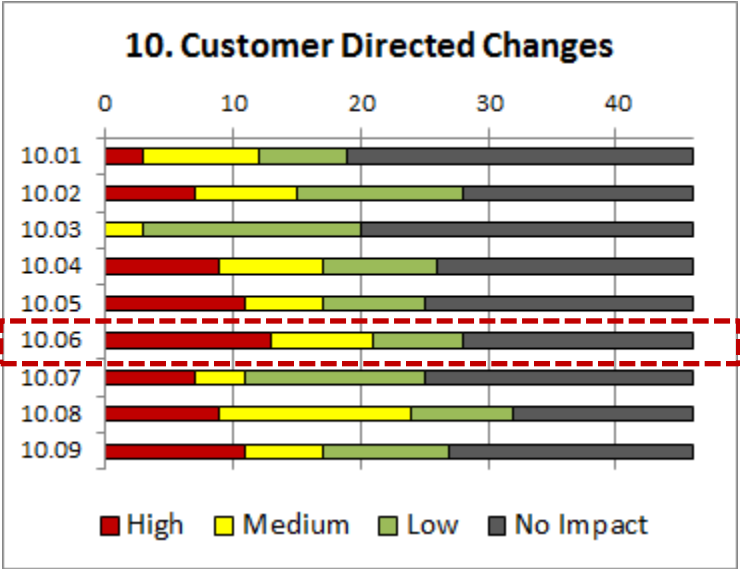
High and Medium Impact Comments:

- Major contributor to program inefficiency while resources are diverted to doing the changes.
- Funding limitations cause sub-optimal plan.
- Funding is driving how budgeting is performed and that drives constant replanning.

Low and No Impact Comments

- We baseline by budget, not funding.
- No customer directed changes to date.

10.06 Poorly Definitized Scope High-Medium Impact Index - 1.643



High and Medium Impact Comments:

- Customer directed technical changes are frequent (more than 3 baseline changes per month over the last year). These are driven by program requirements and are fundamental to this program.
- Scope delineation and clarification between us and the Prime has caused additional work and re-work.
- Customer words requirements broad enough “to drive a truck through.”
- The problem caused by poorly defined scope is further compounded by the DCMA expecting very detailed scope in the WADs (level 6+ details in a level 4 WAD).

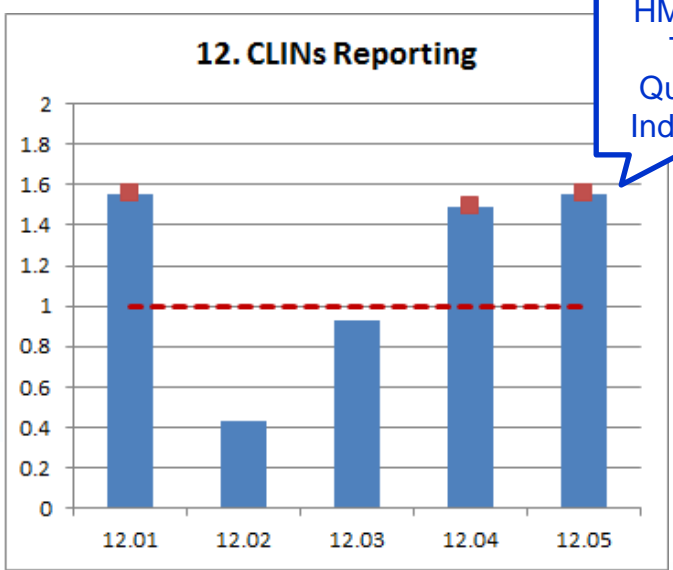
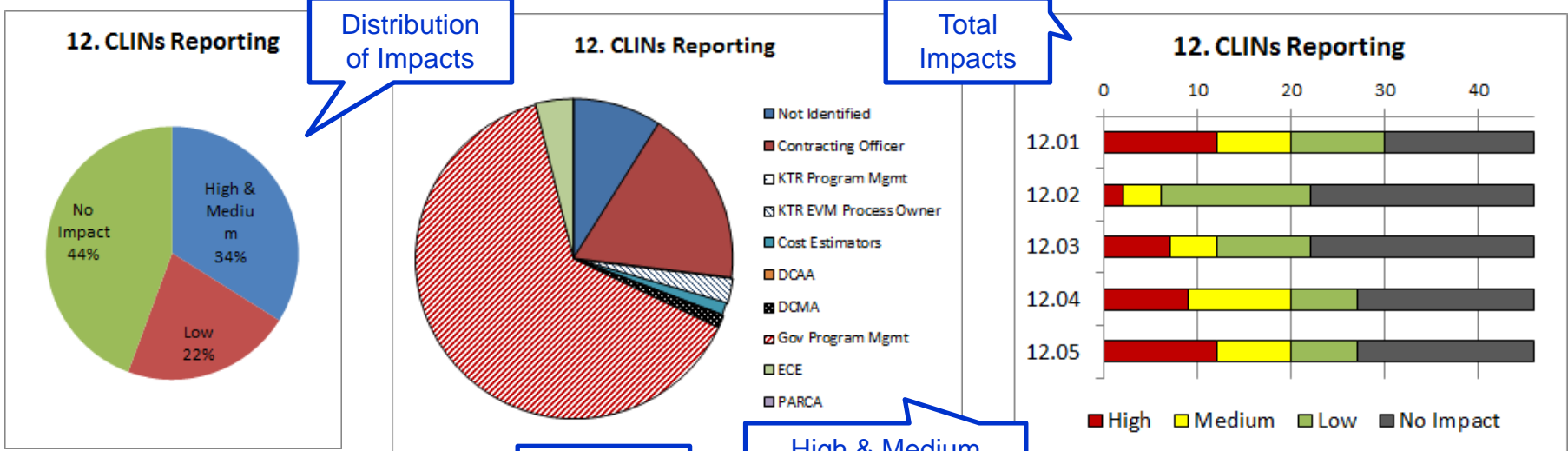
Low and No Impact Comments

- No customer directed changes to date.

Cost Driver 12. CLINs Reporting (Contains Top Quartile Cost Area)



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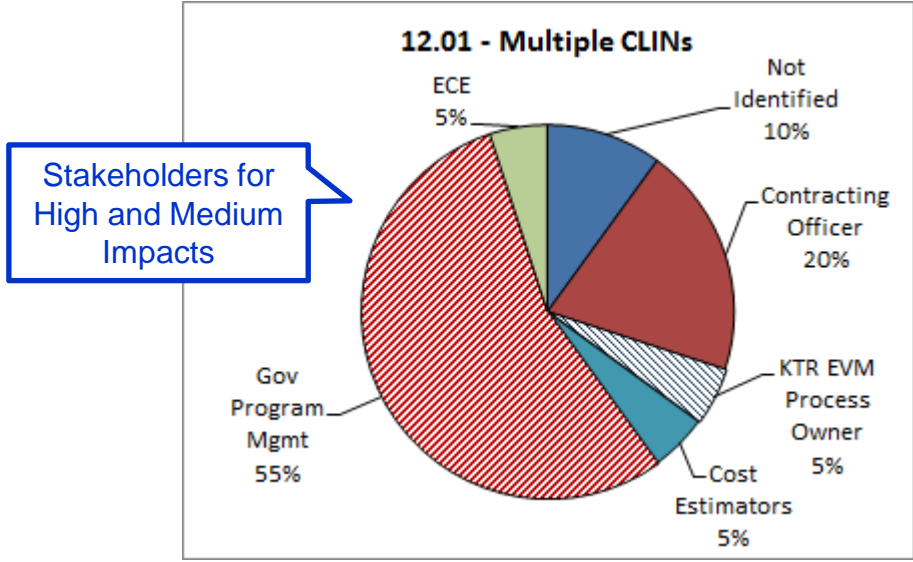
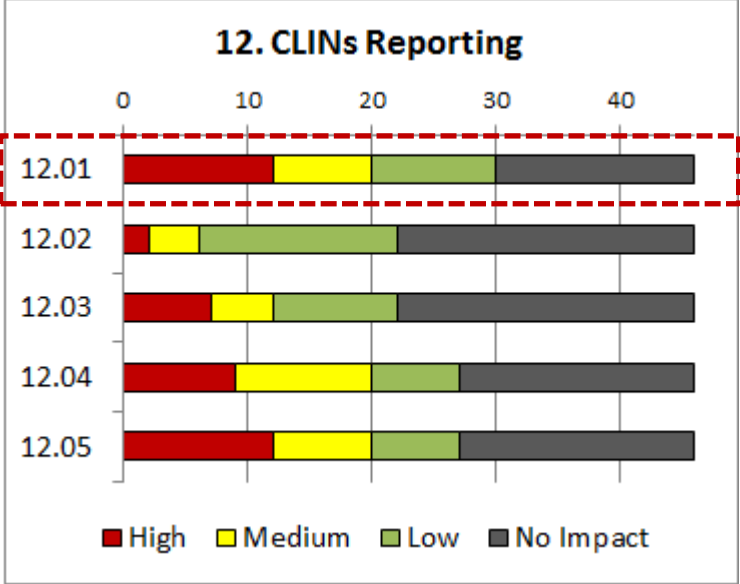


12. CLINs Reporting
12.01 Multiple CLINs
12.02 Tracking MR
12.03 Embedding Clins in WBS
12.04 Separate Planning, Tracking & Reporting Reqmts
12.05 CLIN Volume

12.01 Multiple CLINs High-Medium Impact Index - 1.557



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High and Medium Impact Comments:

- Using CLINs and sub-CLINs to track sources of money is complex. Chaining the CLIN structure during program execution is even more complex. Both have occurred on this program.
- The level of reporting required for a DFAR program is at a much lower level than a non-DFAR program, driving 3-4X the number of control accounts that would be used if strictly internal.
- We have multiple CLINs requiring multiple reporting. The smaller CLINs require the same reporting as the larger CLINs (CPR/CF SR/CCDR) but also require the additional data such as headcounts, billing profiles, PMRs, etc.

Low and No Impact Comments

- There are no multiple CLIN(s)

Observations from the Survey Data and Next Steps



- In 71% of all survey data points there is *Little to No* cost premium identified to comply with Government EVM requirements
- No single Cost Area was identified as a High and Medium Impact for any more than 48% of the programs surveyed. Comments identify opposing concerns, for example in 5.02 Maintaining the EVMS Processes, recommendations for both more standardization across programs in a company and less standardization.
- For some cost areas, the cause of the cost driver is not EVMS but the Government Acquisition Environment
- Government Program Manager is the Stakeholder driving the largest portion of the delta EVM costs between commercial and government programs. Government Program Management Significant Drivers appear to run the spectrum and are not necessarily tied together.
- Stakeholder engagement is key to developing Better EVM Implementation Recommendations and Initiatives