



IP2M METRR Case Study "Think Differently"

David Kester and Panel

Greg Smith – WRPS

Pam Brooker – SRMC

Amber Young – PM30



Agenda

- **2024 EVMS Survey Results**
- **ASU EVMS Research Study and IP2M METRR**
- **IP2M METRR Assessment Analysis Methods**
- **Panel Discussion**



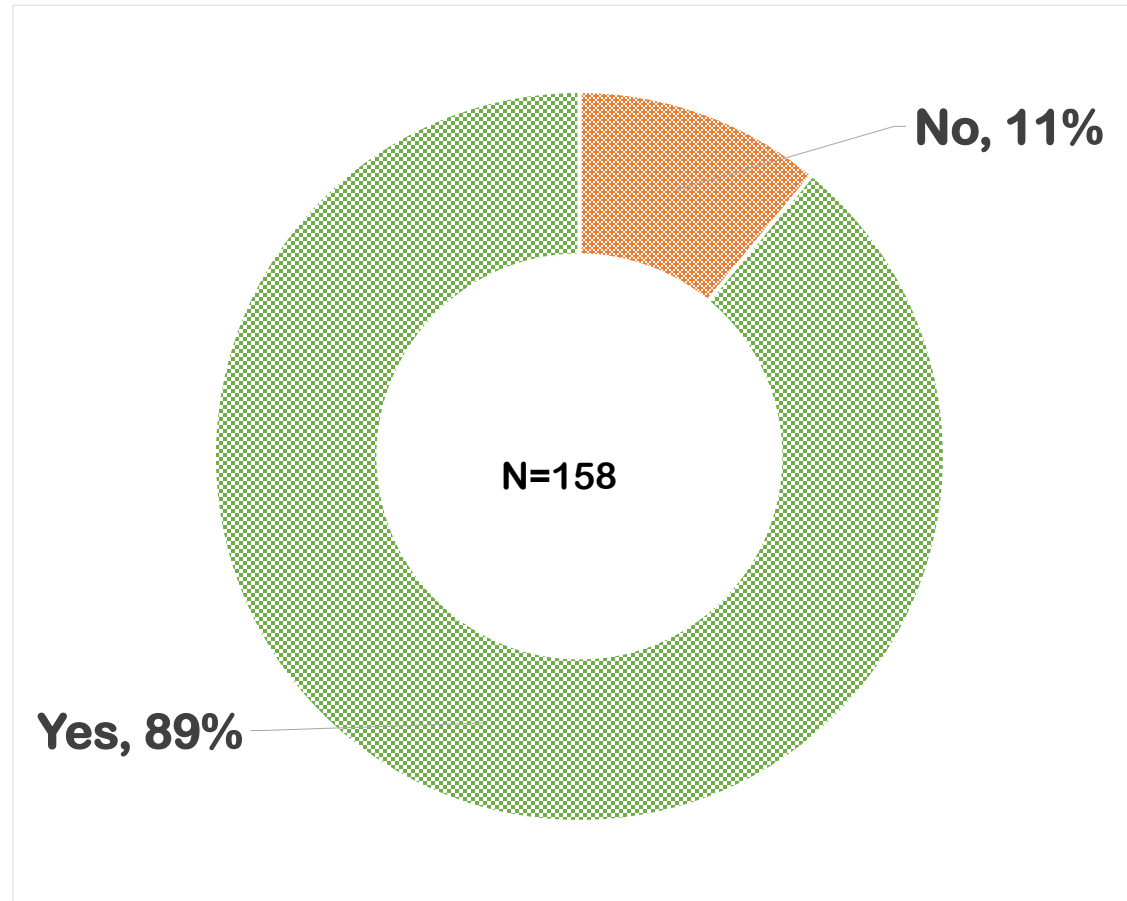
2024 EVMS Survey Results

- 10 question survey about an EVMS
- 158 of ~500 (~32%) registered attendees responded to the survey
- **BLUF:**
 - **(Q4) Respondents have divergent views on using an EVMS as the primary go-to management tool**
 - **(Q5) Most respondents believe a project's environment and culture influences the effectiveness of an EVMS**
 - **(Q8) Most respondents believe the quality of their EVMS data can be improved**
 - **(Q9) Most respondents believe the biggest impediment to implementing an effective EVMS is the lack of commitment followed closely by its complexity**



2024 EVMS Survey Results (Cont.)

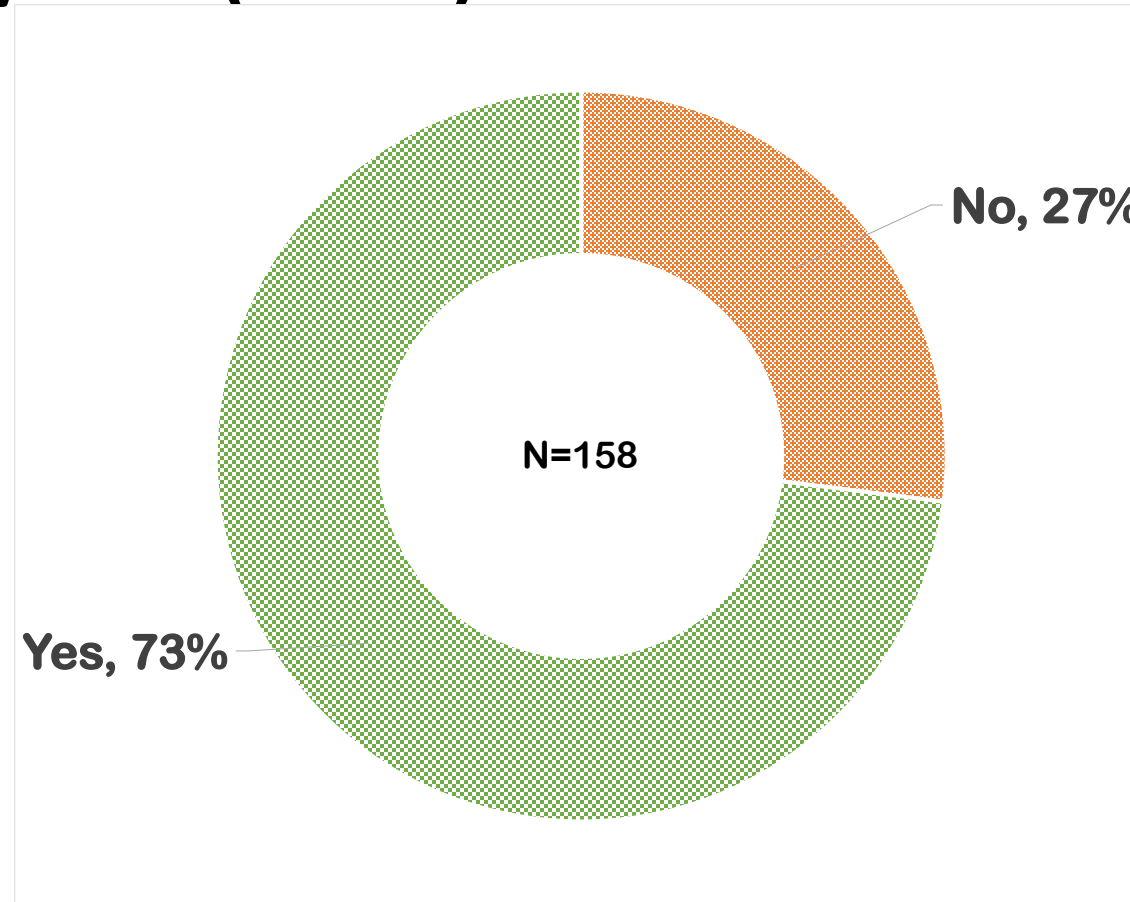
1. Does an Earned Value Management System (EVMS) empower your project or program for success?





2024 EVMS Survey Results (Cont.)

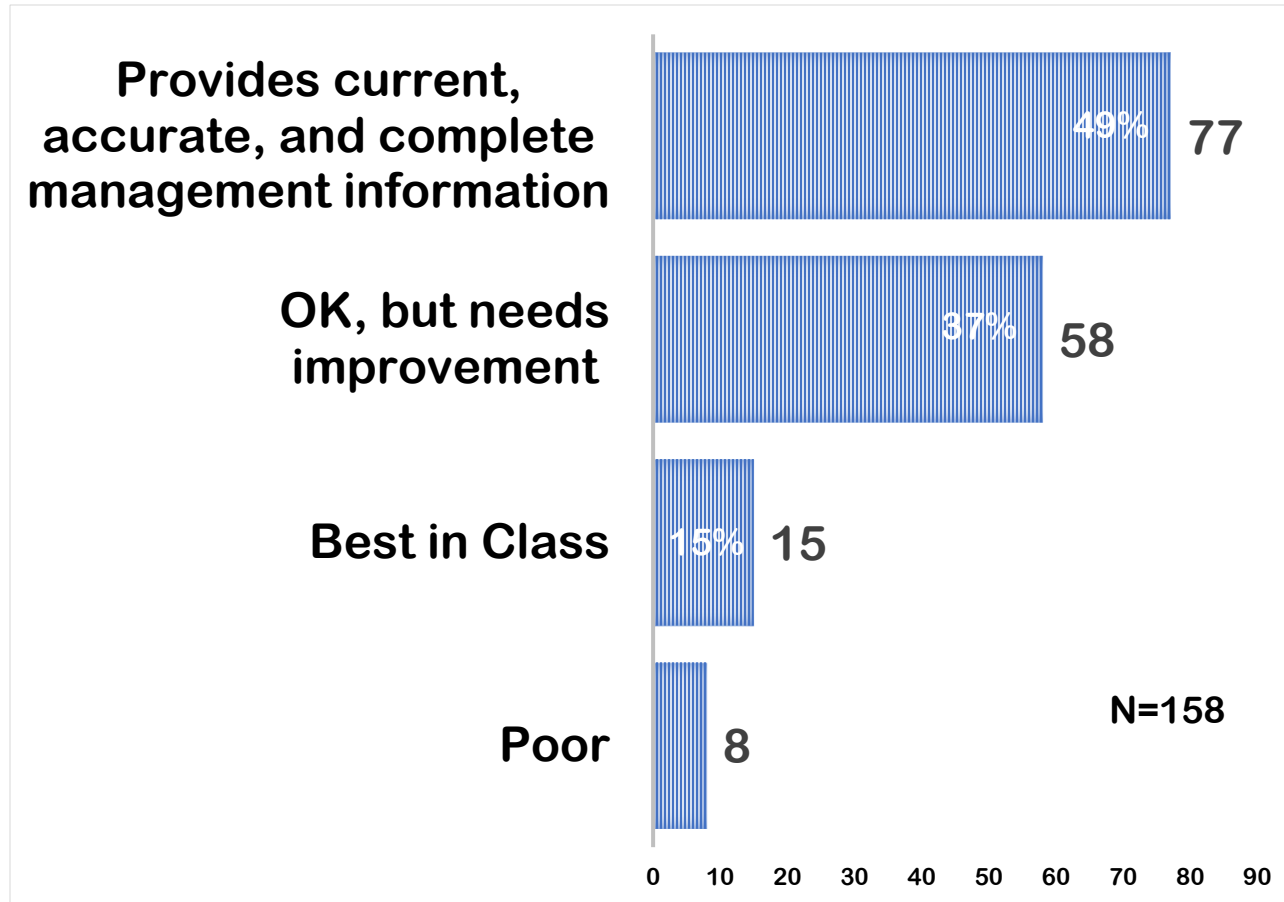
2. Value for Money: Are the benefits of using an Earned Value Management System (EVMS) consistent with its implementation costs?





2024 EVMS Survey Results (Cont.)

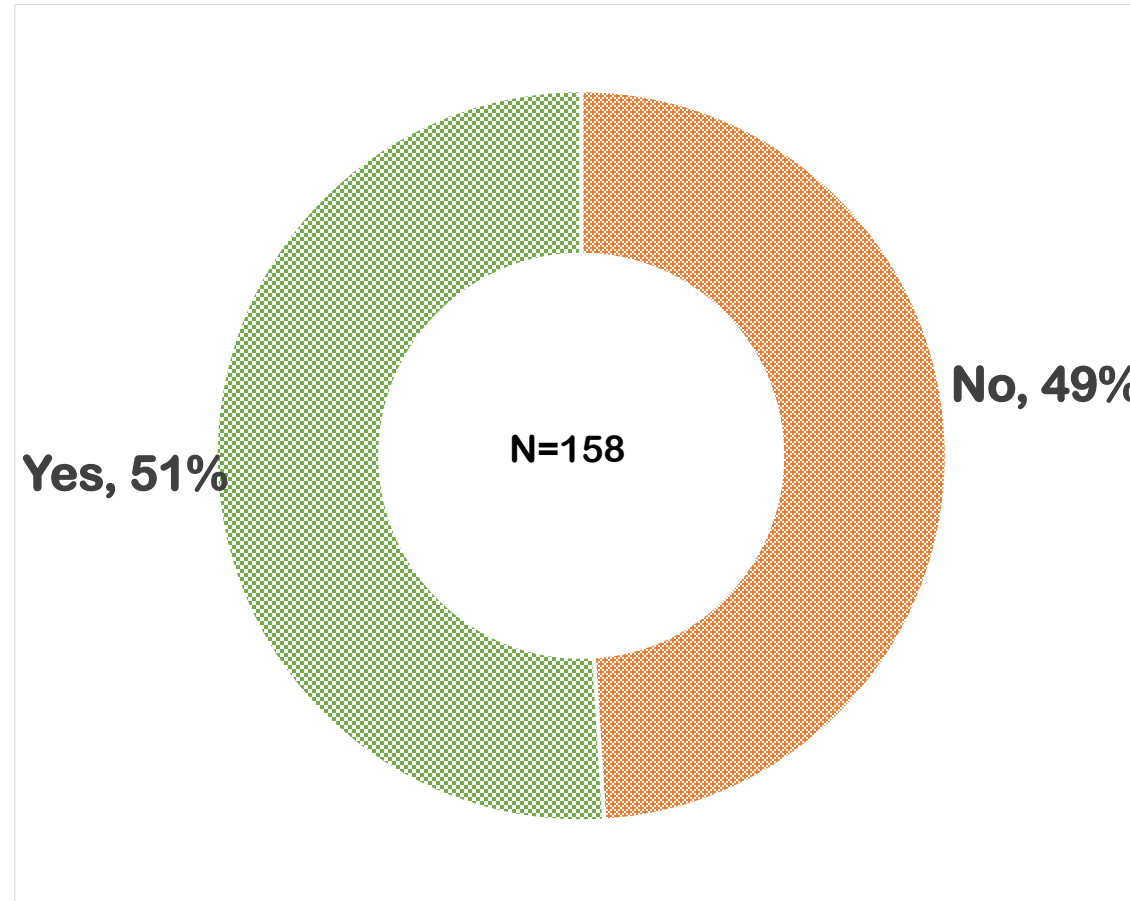
3. How would you rate the overall effectiveness of your project's or program's EVMS?





2024 EVMS Survey Results (Cont.)

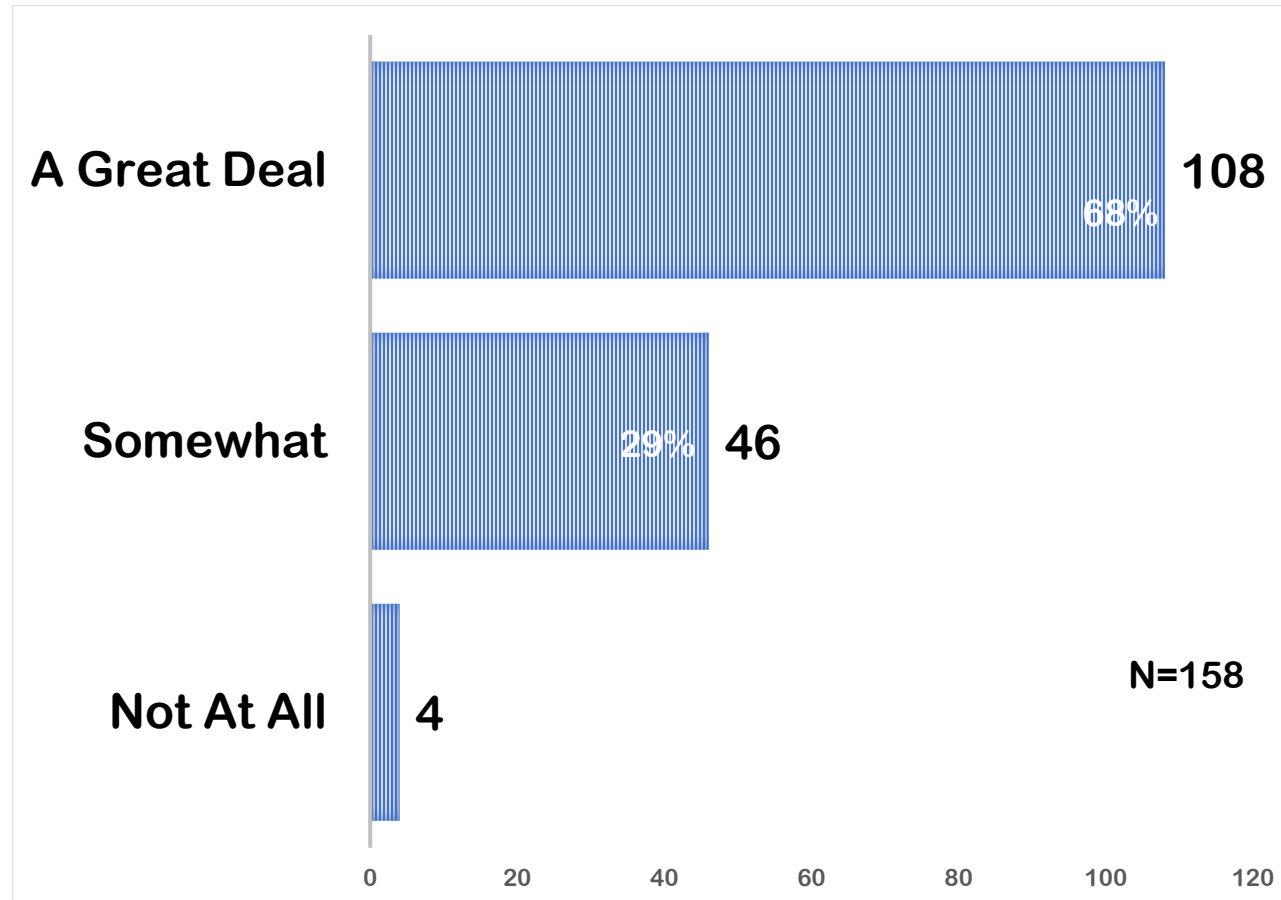
4. Is an EVMS the primary go-to management tool your project or program uses for risk management and informed decision-making?





2024 EVMS Survey Results (Cont.)

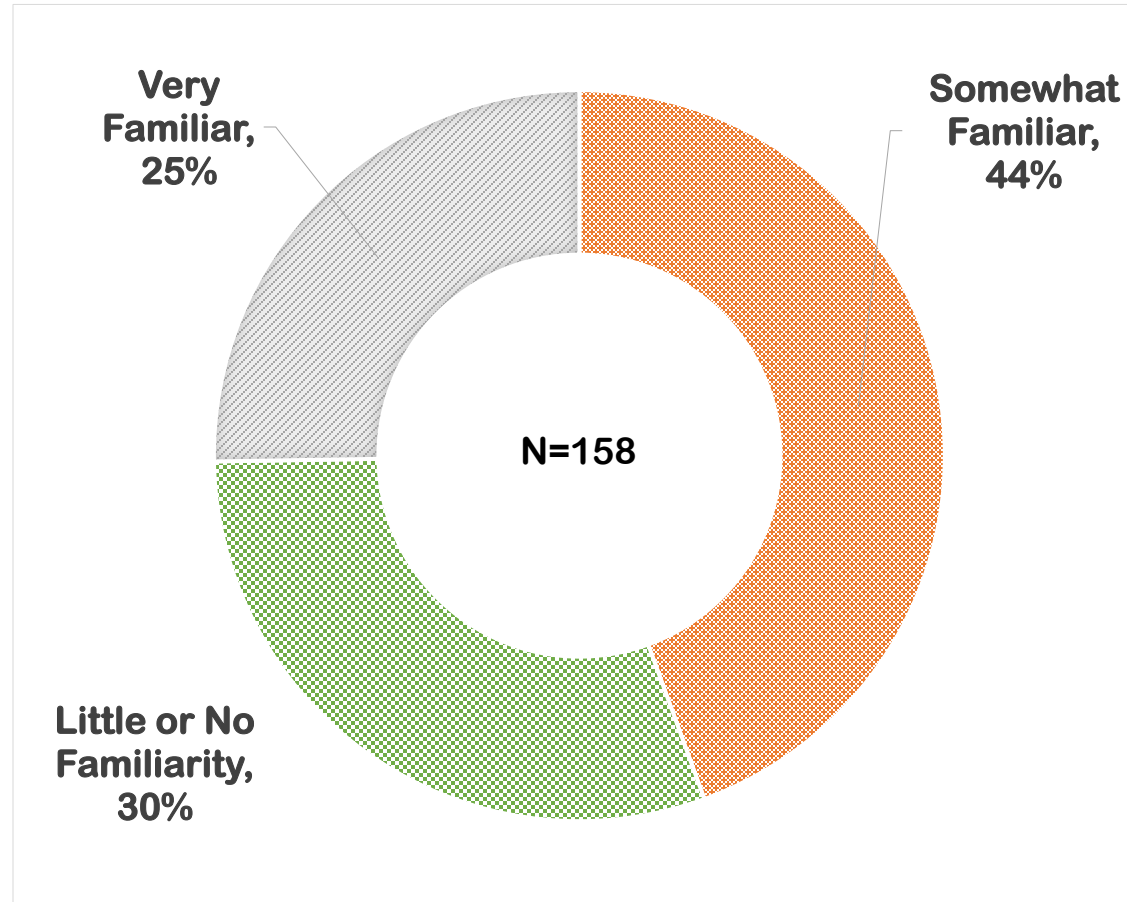
5. To what degree do you believe that a project's or program's environment and culture influence the effectiveness of an EVMS?





2024 EVMS Survey Results (Cont.)

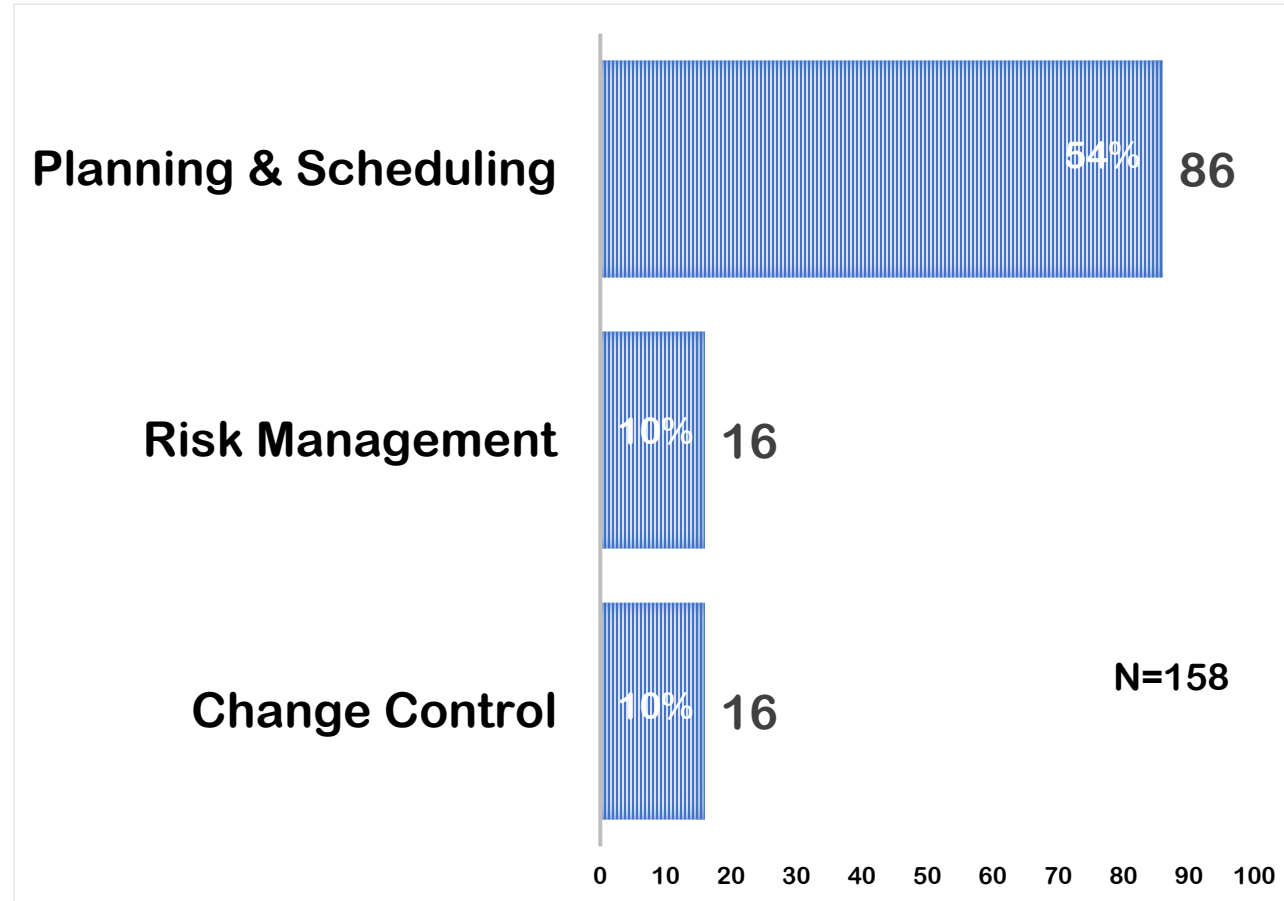
6. To what level are you familiar with the Integrated Project Program Management / Maturity Environment Total Risk Rating (IP2M METRR)?





2024 EVMS Survey Results (Cont.)

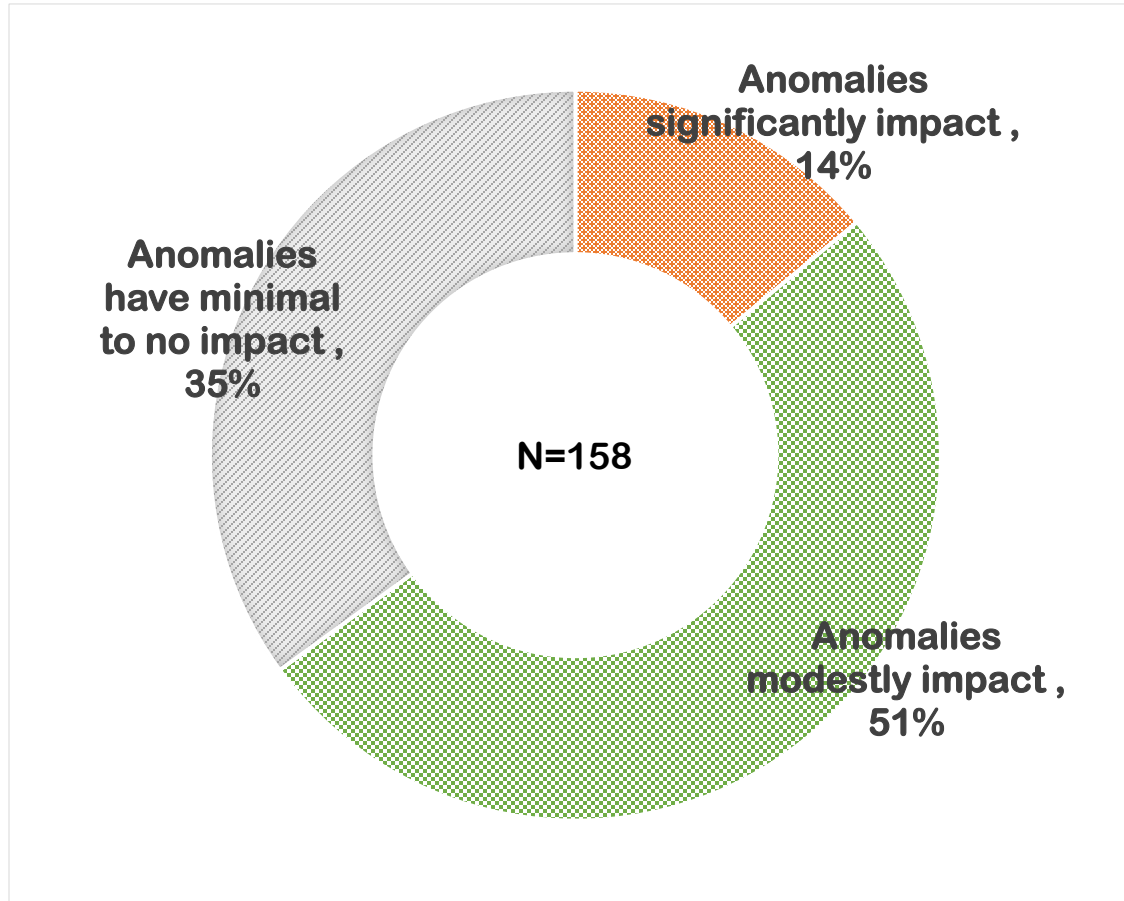
7. Which three EVMS management subprocess in priority order do you believe are the most important?





2024 EVMS Survey Results (Cont.)

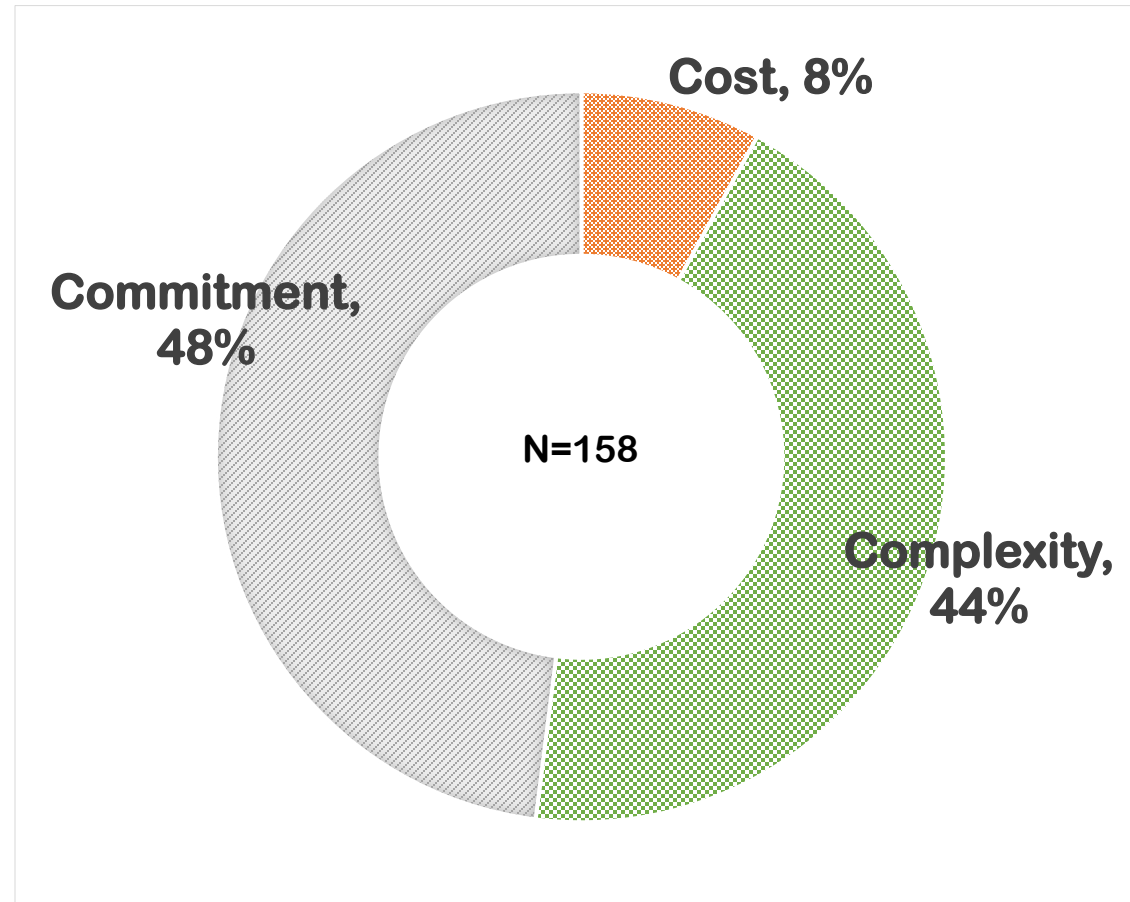
8. How would you rate the quality of your project's or program's EVMS performance data?





2024 EVMS Survey Results (Cont.)

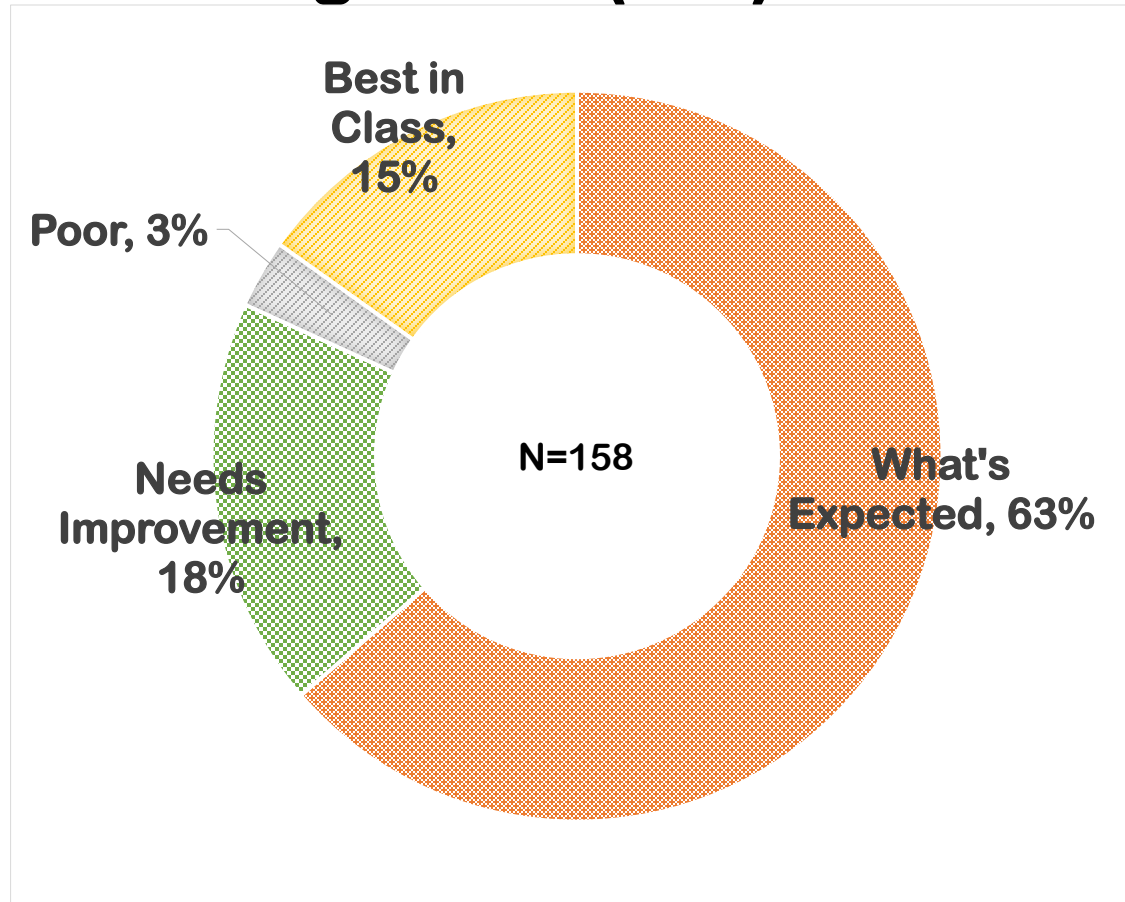
9. What would you say is the biggest impediment to the full implementation of an EVMS?





2024 EVMS Survey Results (Cont.)

10. How would you rate the quality of services provided by the Office of Project Management (PM)?





Transformative Change

“Let’s continue to work collaboratively and collectively as we implement an integrated project management strategy using an EVMS that everyone can benefit from. **The ASU study confirms that reaching a sustainable future is still possible but not through business as usual – transformative change is needed. An effective EVMS can help your project succeed if you let it.**”



Mr. Melvin Frank

Department of Energy Office of Project Management (PM)
Director, Project Controls and Policy Division (PM-30)



EVMS Academic Research Results

- Sponsored by the Office of Project Management (PM) in April 2019 and led by Arizona State University (ASU) – Ongoing
 - **DOE/ASU IP2M METRR Facilitator Certification: May 20-21** (Empower Users' Group (EUG))
- **All three of the research study hypotheses were proven to be correct:**
 - EVMS maturity attributes and environment factors can be defined
 - EVMS maturity attributes and environment factors can be measured
 - EVMS maturity attributes and environment factors are relational



EVMS Academic Research Results (Cont.)

- There are **statistically significant differences** between the performance of projects and programs implementing a mature EVMS and those that are less committed
- A project's or program's **environment has a direct effect on the maturity of an EVMS**
- Integrated Project Program Management / Maturity and Environment Total Risk Rating (IP2M METRR) **quantitatively measures a project's or program's environment, and the maturity and effectiveness of an EVMS**



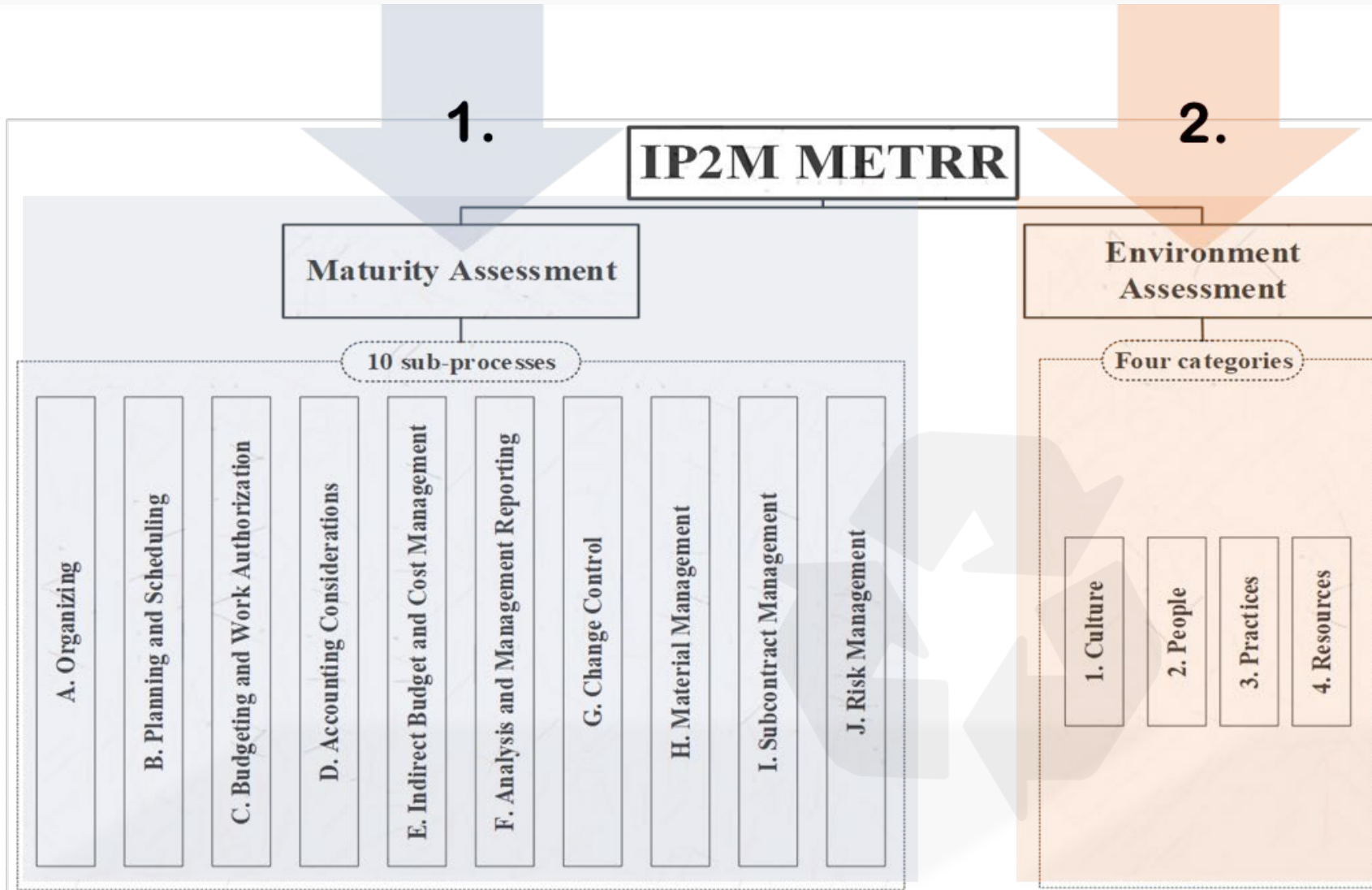
EVMS Academic Research Results (Cont.)

- IP2M METRR environment and maturity assessment scores are plotted against color ranges providing actionable insights to maximize performance and predictability
- Calculating a project's or program's **personalized credit risk score**





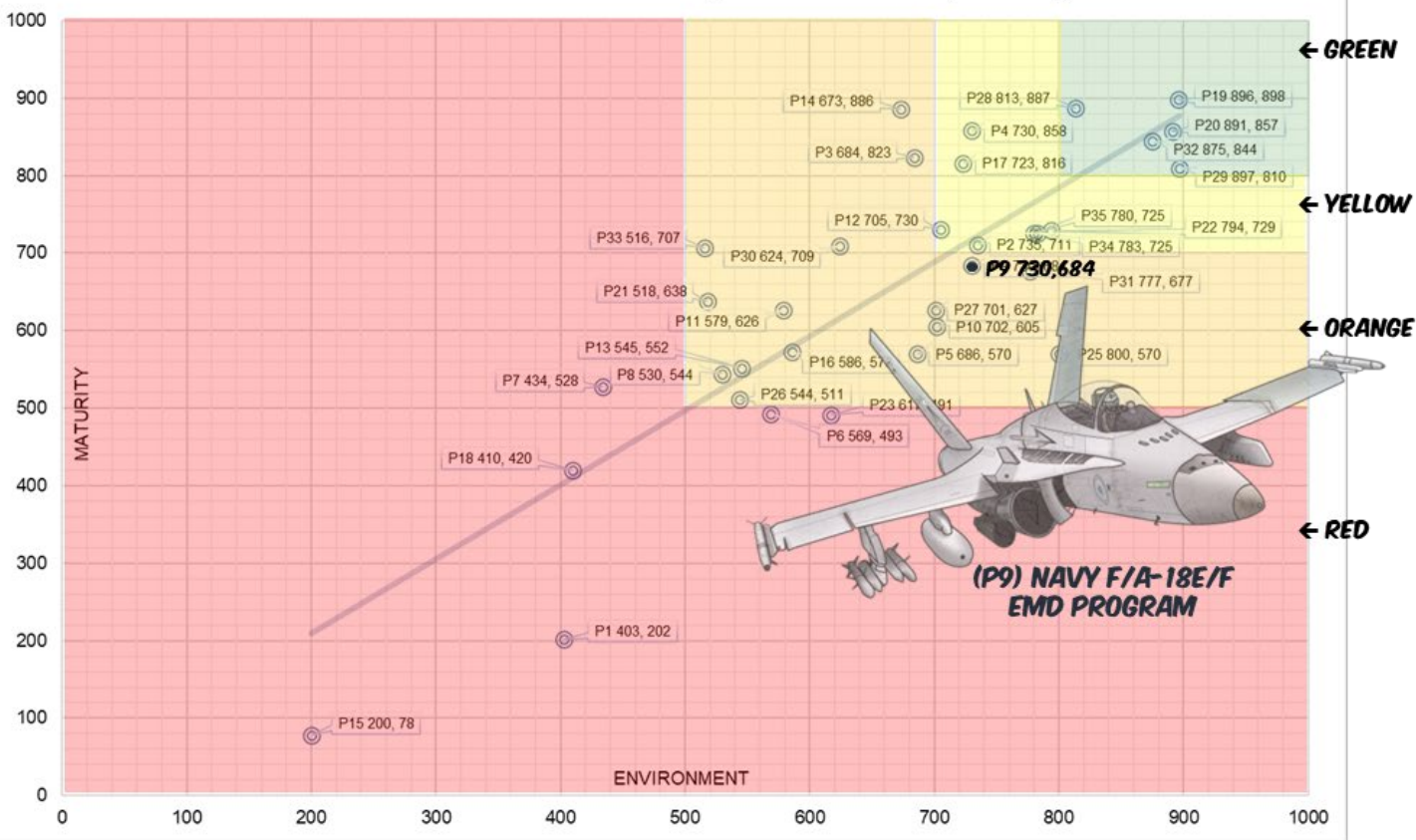
IP2M METRR – Two Parts





ASU Academic Research Study: Correlation

Environment and Maturity Correlation (N=35)



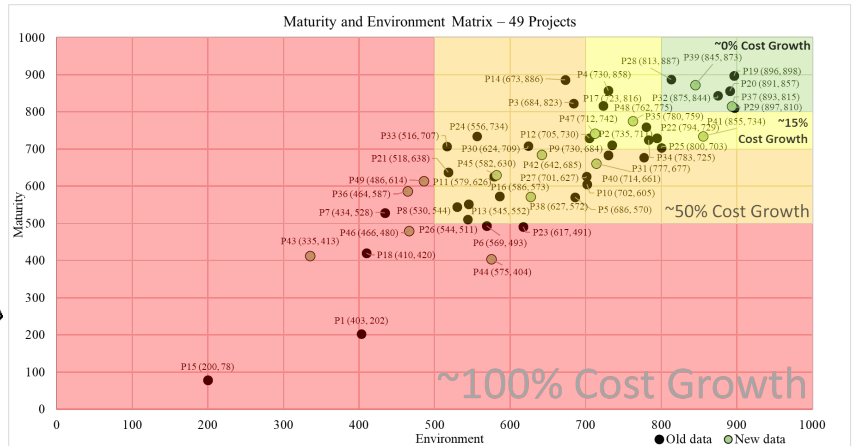
GREEN (>800)	
N:	5
Mean Cost Growth:	-0.3%
Mean Schedule Growth:	-5.9%

YELLOW (700-799)	
N:	7
Mean Cost Growth:	+13.7%
Mean Schedule Growth:	+3.8%

ORANGE (500-699)	
N:	15
Mean Cost Growth:	+48.2%
Mean Schedule Growth:	+26.9%

RED (<500)	
N:	6
Mean Cost Growth:	+92.3%
Mean Schedule Growth:	+24.3%

ASU Research Study (Update)



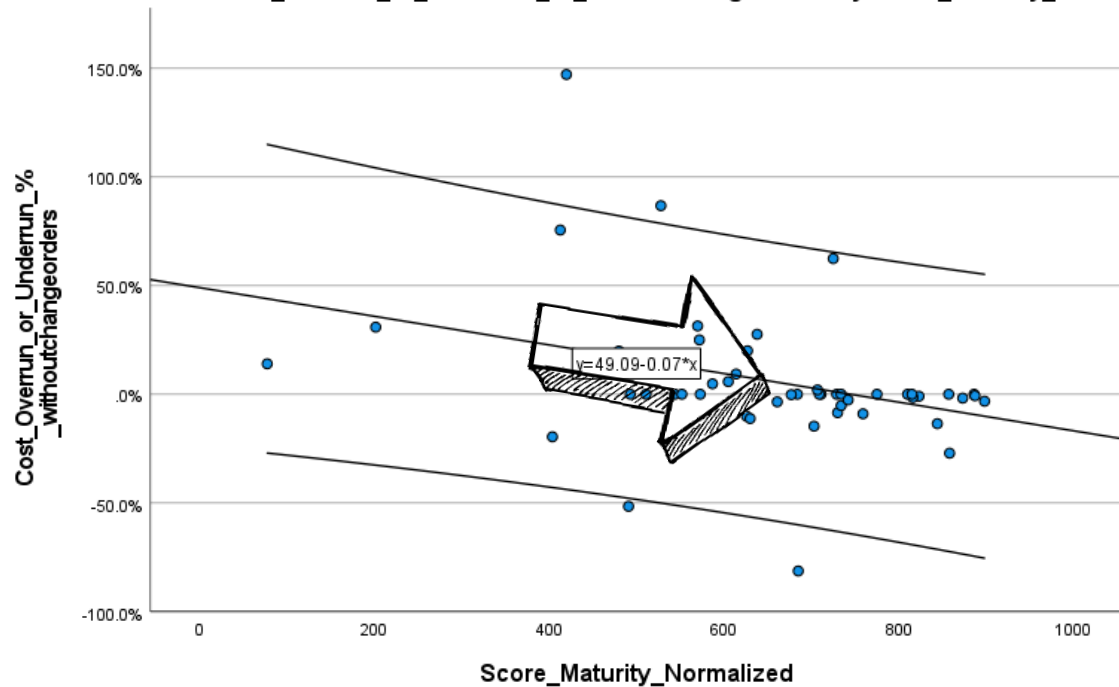


ASU Academic Research Study: Correlation (Cont.)

- **Maturity of an EVMS driven by social environment factors together will significantly impact project performance**

Scatter Plot of Cost_Overrun_or_Underrun_%_withoutchangeorders by Score_Maturity_Normalized

R^2 Linear = 0.116

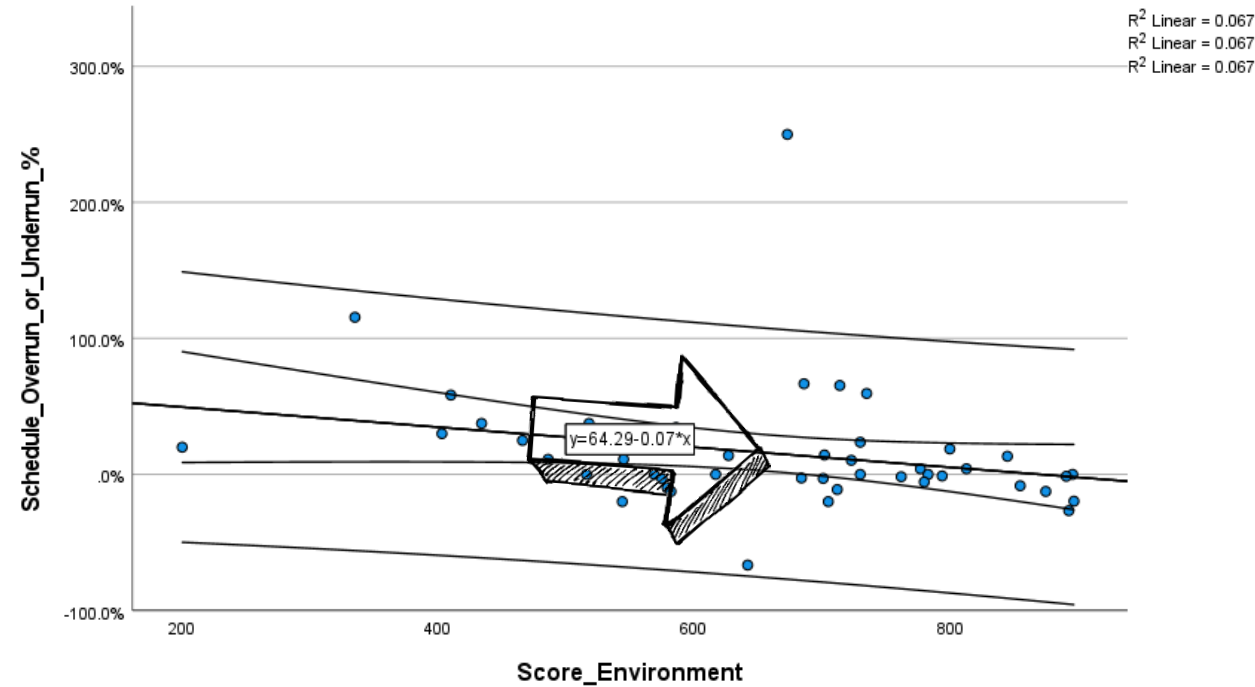


Scatter Plot of Schedule_Overrun_or_Underrun_% by Score_Environment

R^2 Linear = 0.067

R^2 Linear = 0.067

R^2 Linear = 0.067





IP2M METRR Assessment Process

- **A facilitated maturity and environment assessment is a three-step process**
 - Step 1: Listen
 - Step 2: Rate
 - Step 3: Explain
- **Participants are placed in groups to best reflect how they interact with an EVMS**
 - Contractor Leadership
 - Contractor Practitioners
 - Local Federal Team
 - PM-30 Review Team



IP2M METRR Assessment Process (Cont.)

- An **abbreviated discussion** of each maturity attribute and environment factor will capture the substance of the full IP2M METRR definition
- Each **environment assessment** lasts between 3 – 3.5 hours whereas each **maturity assessment** lasts between 4 – 4.5 hours
- Each participant will **provide ratings and commentary (anonymously)** using an electronic device
- When rating, participants will **consider each attribute and factor from their vantage point based on knowledge and observation**
- Participants' **ratings and commentary are the Gold!**



Environment Assessment Analysis

- The **primary method used for determining the condition of a project's environment** is a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis
- The **first question** being answered is: At what level(s) will the SWOT analysis be performed?
- The **second question** being answered is: What are the internal **Strengths and Weaknesses** of a project's environment according to IP2M METRR?
- The **third question** is: What are the external **Opportunities and Threats** to a project's environment according to IP2M METRR?



Environment Assessment Analysis (Cont.)

- After these questions are answered, **actionable recommendations are generated to help identify issues towards building a high performing project environment**
- SWOT analysis is **assisted by Artificial Intelligence (AI)**
- A **facilitator led follow-up discussion** brings participants together to build consensus towards resolving issues and exploiting opportunities



Environment Assessment Analysis (Cont.)

Collect, Assemble, and Comprehend Results

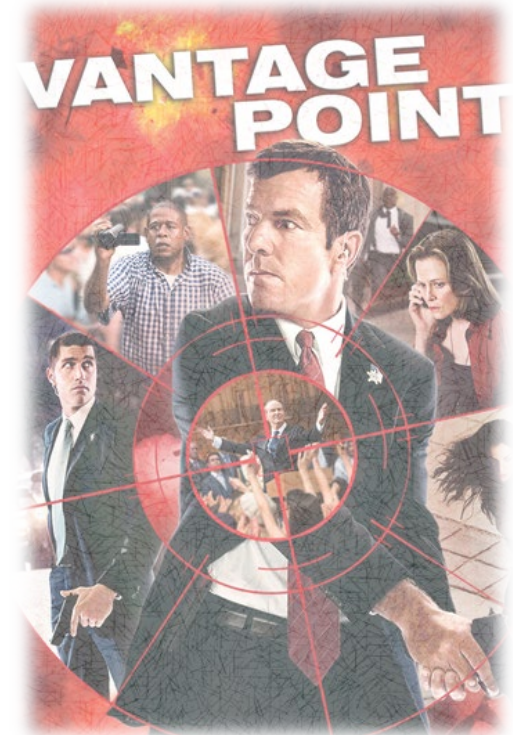
- **Environment Factor 1c:** The customer organization is supportive and committed to the implementation and use of the EVMS
- **Total Ratings: N=44**
- **Consensus Rating Average: 3.77**
 - (5.00) ***** = 8
 - (4.00) ***** = 19 (43%)
 - (3.00) ***** = 16 (36%)
 - (2.00) ***** = 1
 - (1.00) ***** = 0



Environment Assessment Analysis (Cont.)

Collect, Assemble, and Comprehend Results

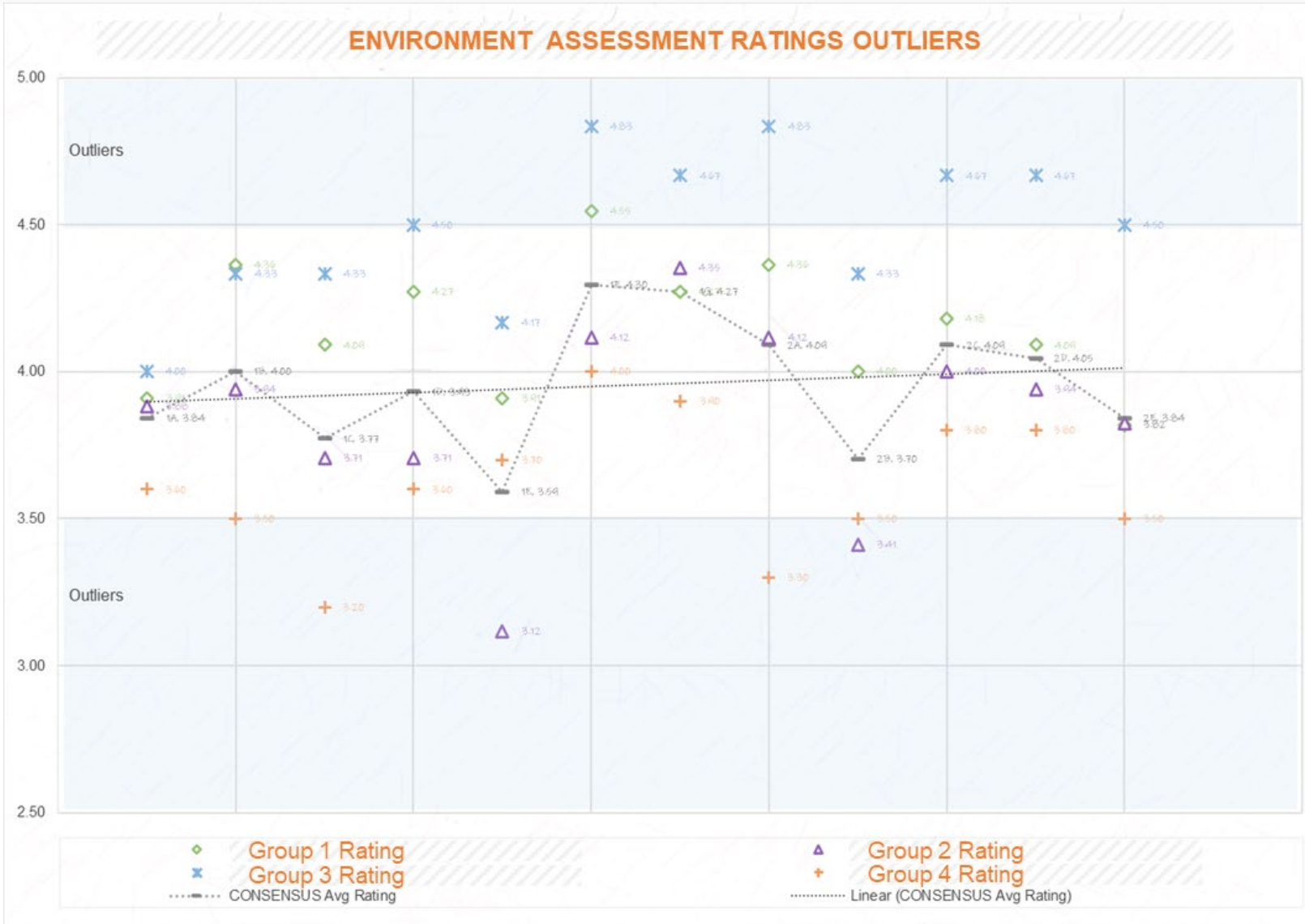
RATINGS	1a	1b	1c	1d	1e	1f	1g	2a	2b	2c	2d	2e	2f
Group 1 Rating	3.91	4.36	4.09	4.27	3.91	4.55	4.27	4.36	4.00	4.18	4.09	3.82	4.55
% Delta from Rating Mean	1.7%	8.3%	7.8%	8.0%	8.1%	5.5%	0.0%	6.3%	7.4%	2.2%	1.1%	-0.6%	3.5%
Group 2 Rating	3.88	3.94	3.71	3.71	3.12	4.12	4.35	4.12	3.41	4.00	3.94	3.82	4.29
% Delta from Rating Mean	1.1%	-1.5%	-1.8%	-6.1%	-15.2%	-4.3%	1.8%	0.6%	-8.6%	-2.3%	-2.6%	-0.5%	-2.1%
Group 3 Rating	4.00	4.33	4.33	4.50	4.17	4.83	4.67	4.83	4.33	4.67	4.67	4.50	4.83
% Delta from Rating Mean	4.0%	7.7%	12.9%	12.6%	13.8%	11.1%	8.4%	15.4%	14.5%	12.3%	13.3%	14.6%	9.2%
Group 4 Rating	3.60	3.50	3.20	3.60	3.70	4.00	3.90	3.30	3.50	3.80	3.80	3.50	4.10
% Delta from Rating Mean	-6.7%	-14.3%	-17.9%	-9.2%	2.9%	-7.4%	-9.6%	-24.0%	-5.8%	-7.7%	-6.5%	-9.7%	-7.0%
Consensus Rating Mean	3.84	4.00	3.77	3.93	3.59	4.30	4.27	4.09	3.70	4.09	4.05	3.84	4.39
Consensus Rating Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Consensus Rating Mode	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
High_Low Delta from Rating Mean	-10.7%	-22.6%	-30.8%	-21.8%	-29.0%	-18.5%	-18.0%	-39.3%	-23.1%	-20.0%	-19.8%	-24.4%	-16.2%
SCORING	1a	1b	1c	1d	1e	1f	1g	2a	2b	2c	2d	2e	2f
Group 1 Rating	56.3	50.5	42.0	39.3	23.3	19.3	15.5	56.2	40.3	39.1	25.9	17.8	8.1
Group 2 Rating	55.8	44.1	36.7	32.5	16.9	16.8	15.8	52.1	32.3	37.0	24.6	17.9	7.6
Group 3 Rating	58.2	50.0	45.3	42.0	25.3	21.0	17.3	64.2	44.8	45.0	31.0	22.0	8.7
Group 4 Rating	50.4	37.5	29.9	31.2	21.6	16.1	13.5	38.6	33.5	34.6	23.5	16.0	7.2
L4 METRR Factor Score Available	58.0	45.0	41.0	36.0	24.0	16.0	14.0	50.0	40.0	37.0	25.0	19.0	7.0
L4 METRR Category Score Available								234.0					178.0
Consensus Factor Score Earned	55.0	45.0	37.7	35.2	20.7	17.8	15.4	51.7	36.3	38.1	25.5	18.0	7.8
Consensus Factor Score Pct Earned	94.8%	100.0%	91.9%	97.7%	86.4%	111.4%	109.9%	103.4%	90.7%	102.9%	102.2%	94.9%	111.0%
Consensus Category Score Earned								226.8					177.4
Consensus Category Score Pct Worth								96.9%					99.6%
Delta L4 Pts. Available	3.0	0.0	3.3	0.8	3.3	-1.8	-1.4	-1.7	3.7	-1.1	-0.5	1.0	-0.8
L4 Running Total Pts. Available	3.0	3.0	6.3	7.2	10.4				14.2			15.1	





Environment Assessment Analysis (Cont.)

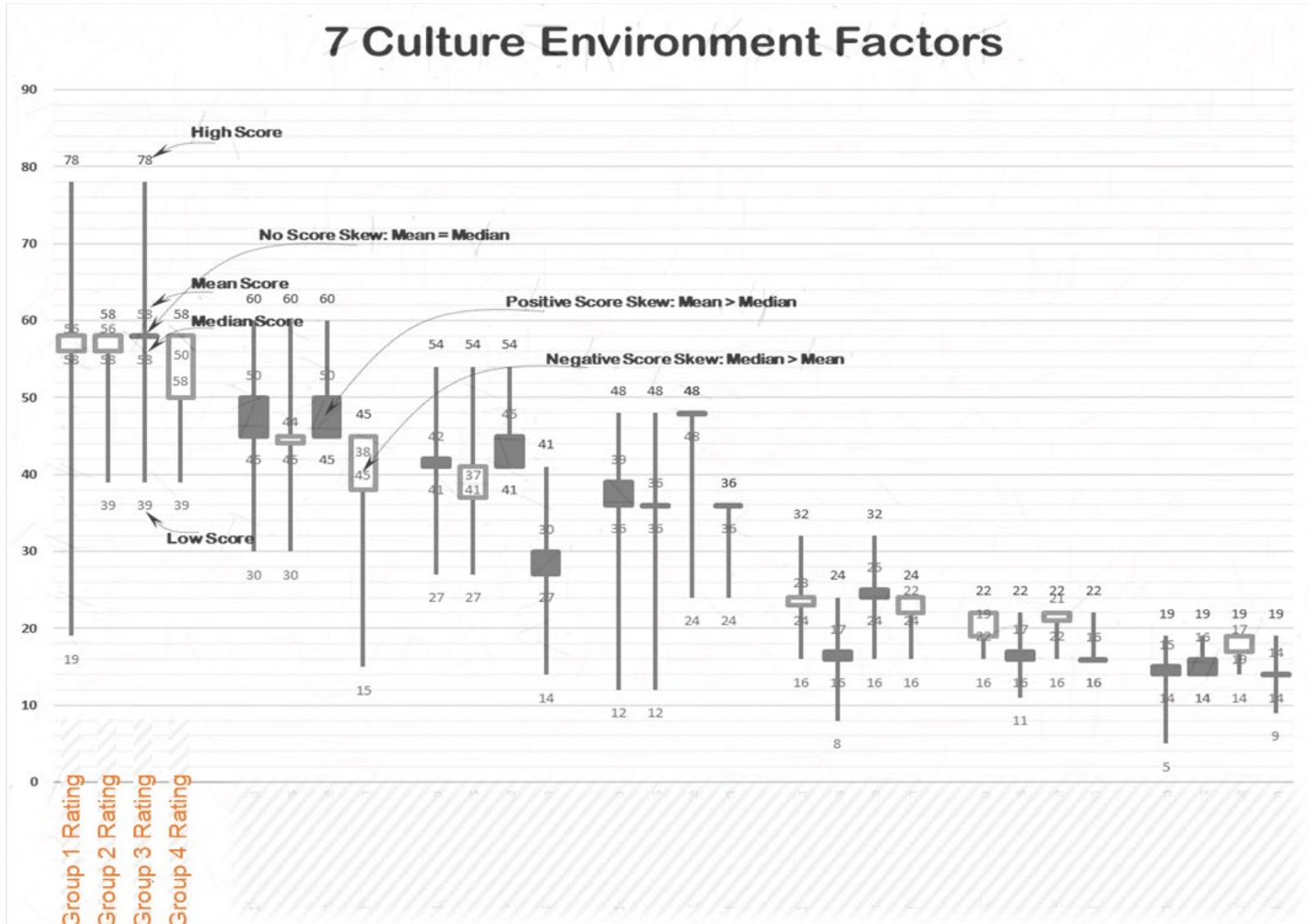
Collect, Assemble, and Comprehend Results





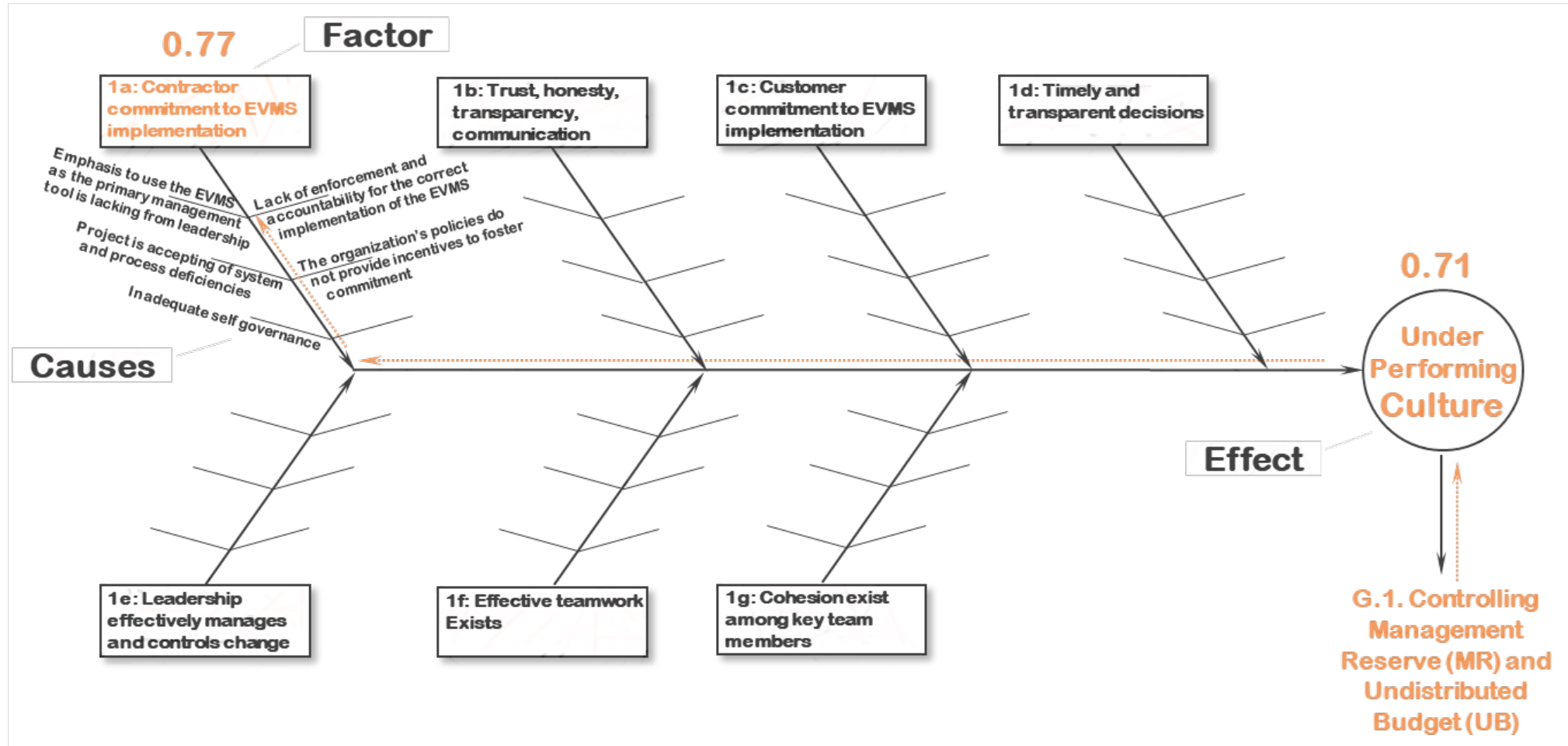
Environment Assessment Analysis (Cont.)

Collect, Assemble, and Comprehend Results





Environment Assessment Analysis (Cont.)



Where Environment and Maturity Meet - Causality



Panel Participants



Greg Smith (WRPS)
IP2M METRR
Concept & Application



Pam Brooker (SRMC)
IP2M METRR
Preparation & Execution



Amber Young (PM-30)
IP2M METRR
Technology & Innovation



Office of Project Management (PM)

