

Defining the Future of Measurement Practice



John McGarry - Cheryl Jones

***U.S. Army Armament Research
Development and Engineering Command***

Measurement Practice - PSM

Where Have We Been?

Where Are We Now?

Where Are We Going?

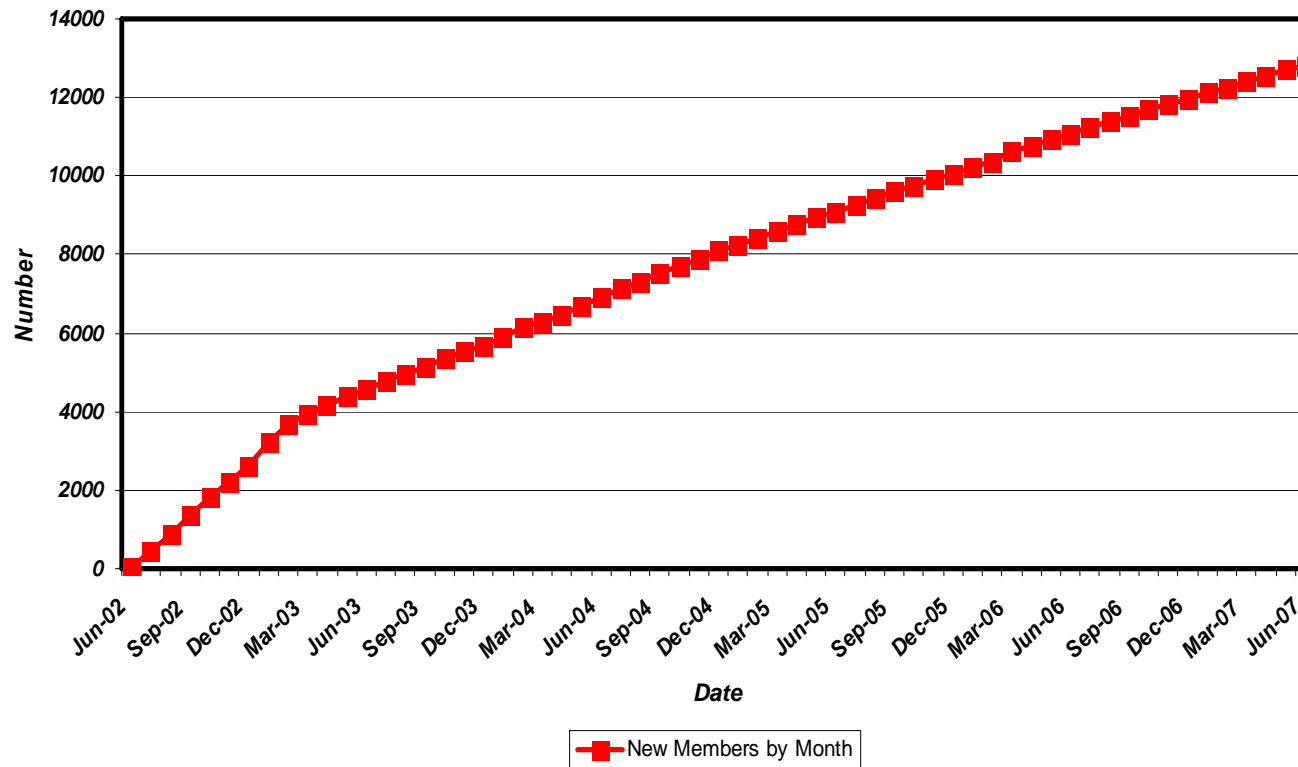
How Do We Get There?

PSM - A Short History

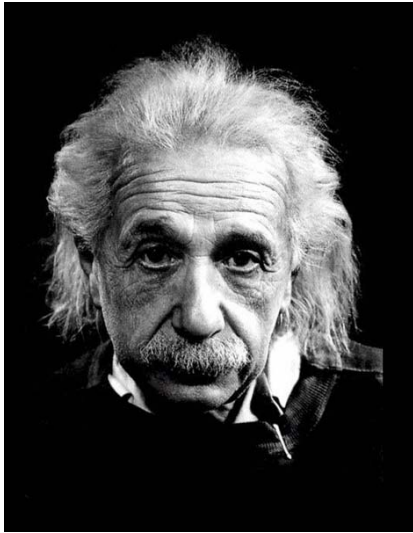
- **1994 - MIL-STD-SWM**
- "let's make a list of the best metrics"
- **1995-1996 - PSM Versions 1.1 and 2.1, A Guide to Objective Program Insight**
- information driven process, objective results, experience based
- **1998 - PSM Version 3.1 - A Foundation for Objective Project Management**
- ICM constructs, measurement specifications, process model
- **1998 - PSM Insight**
- integrated tool to automate the measurement process
- **2001 - PSM Version 4.0 - A Foundation for Objective Project Management**
- software and systems engineering measurement
- **2002 - PSM, Objective Information for Decision Makers**
- information model, decision focus, ISO/IEC 15939, CMMI
- **2002-2007 - PSM Technical Extensions**
- systems engineering, specific domain guidance, performance measurement and evaluation, multi-project systemic analysis, risk management

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PSM Registered Users

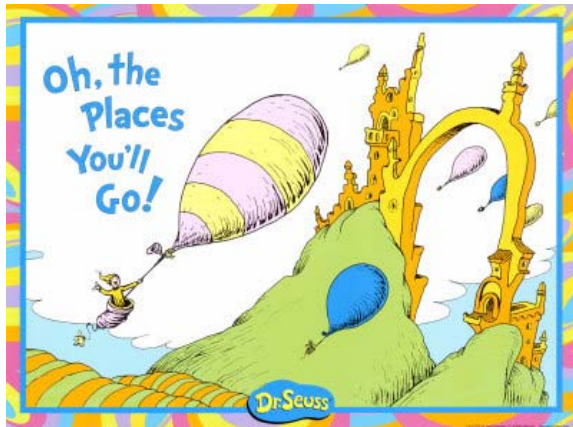


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“The whole of science is nothing but a refinement of everyday thinking”

Albert Einstein



***“And will you succeed?
Yes, you will indeed!
98 and $\frac{3}{4}$ percent guaranteed”***

Theodore Seuss Geisel

PSM - What Hasn't Changed?

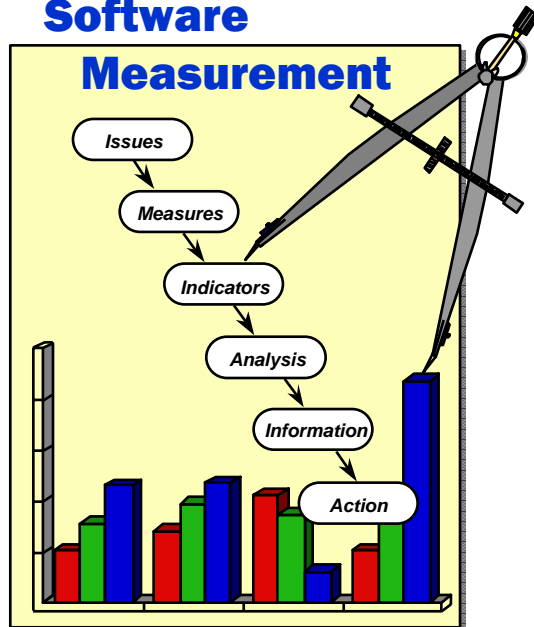
- ***Measurement Principles***
- ***Information Driven Measurement Process***
- ***Measurement Information Model***
- ***Integrated Analysis Concepts***
- ***Flexibility of the Guidance***
- ***Experience Based Team Contributions***
- ***Cost of the Products***
- ***Value to the User***
- ***Objective - Get Measurement Into Practice***

How Has PSM Evolved?

- ***Software to Systems***
- ***Project to Enterprise***
- ***DOD to Commercial Applications***
- ***Fundamentals to Specific Implementations***
- ***Concepts to Models to Constructs***
- ***Small to Extensive Number of Users***
- ***Single Guidance Source to Multiple Sources***
- ***Different Sponsors and Participants***

Practical Software Measurement - 1995

Practical Software Measurement



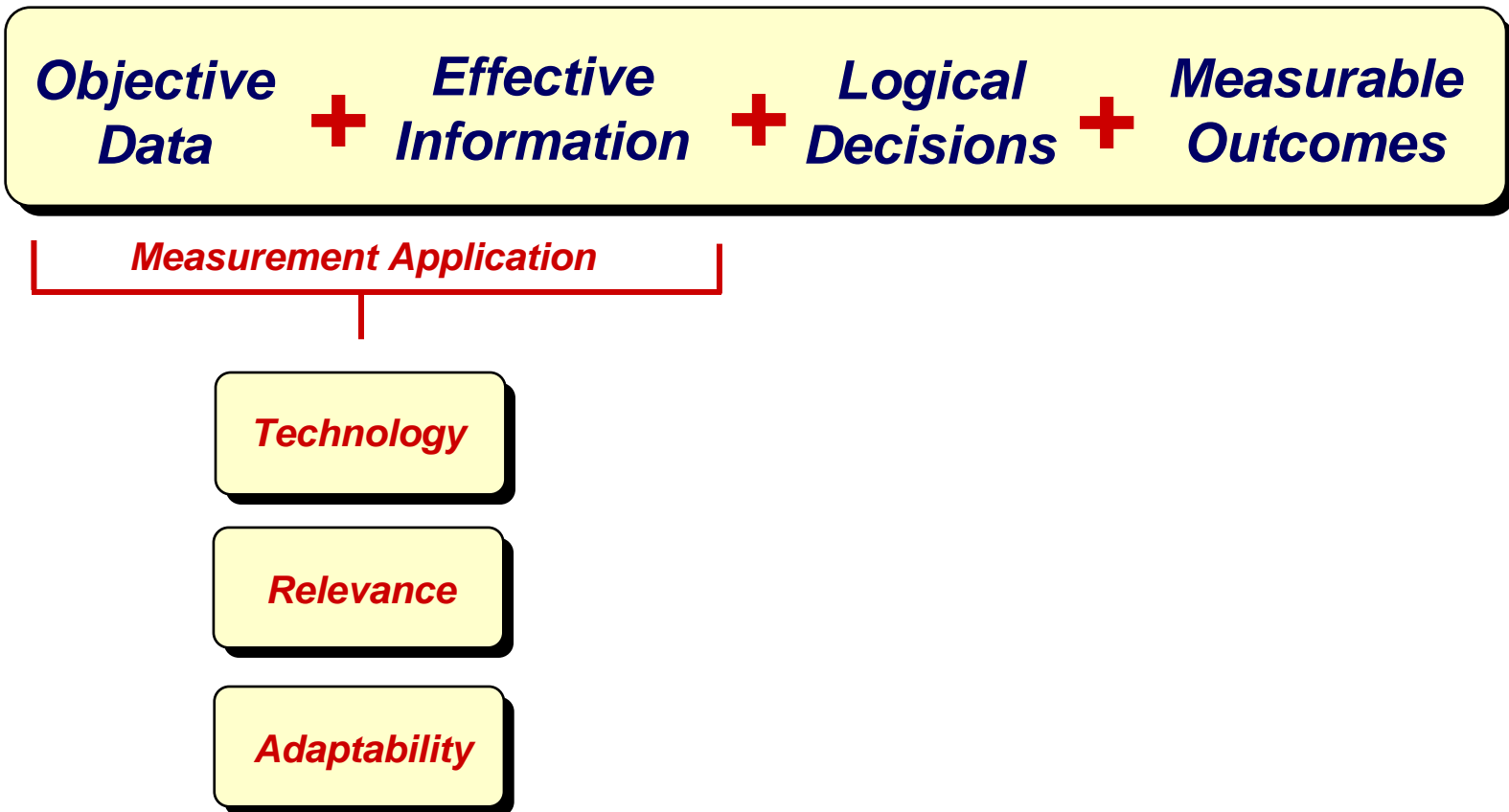
Measurement must objectively support informed decision making

Action must be taken to realize any benefit of measurement

Measurement as a Practice

**Objective
Data** + **Effective
Information** + **Logical
Decisions** + **Measurable
Outcomes**

Measurement as a Practice



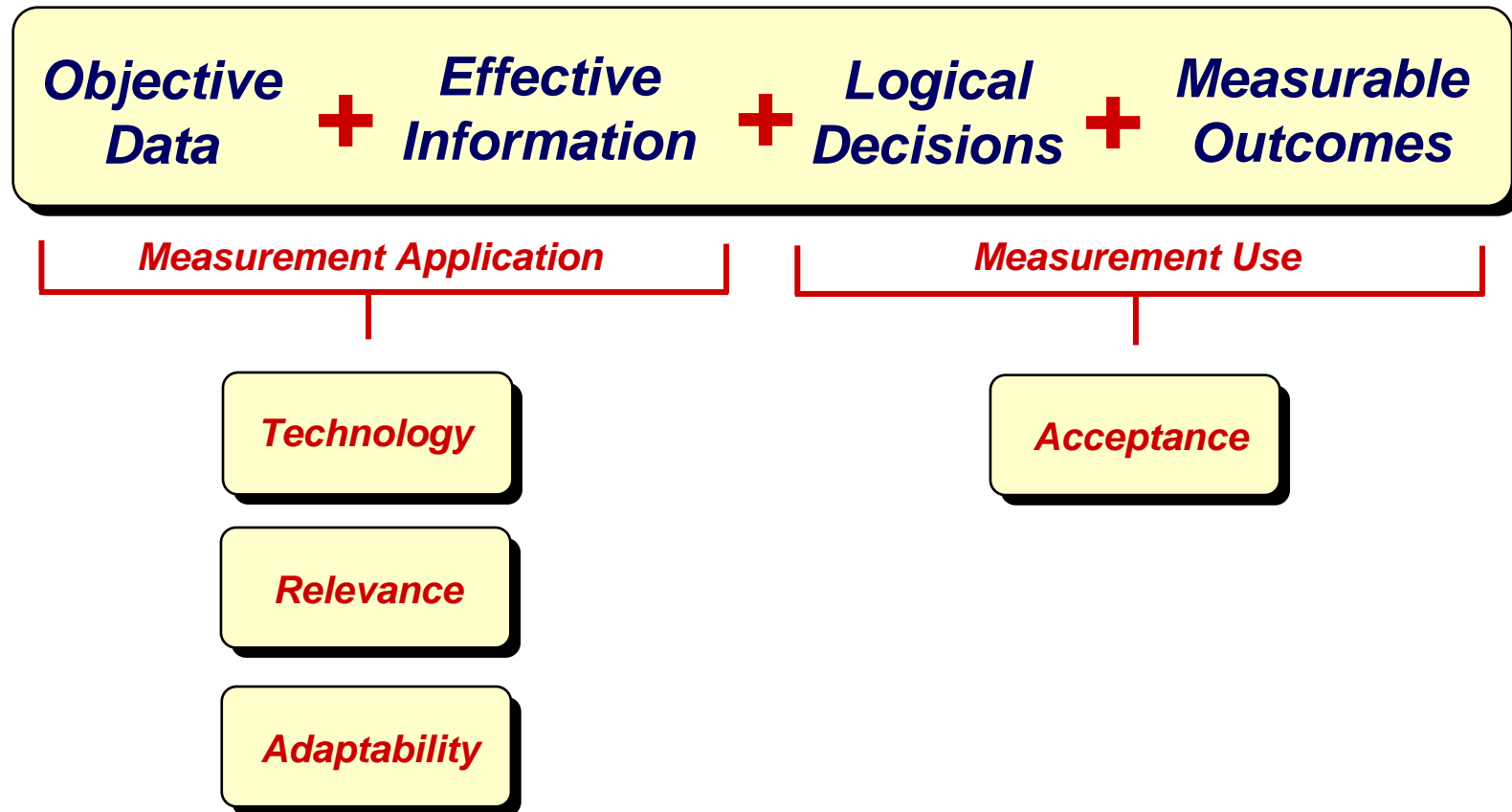
Measurement Application Challenges

- ***Technical Requirements - Keeping Measurement Up to Date***
 - *what to measure*
 - *how to measure*
 - *analysis & estimation techniques*
 - *context based understanding*
 - *education*
- ***Measurement Scope & Efficiency***
 - *breadth of domain application*
 - *ability to change - quickly*
 - *high degree of flexibility*
 - *value added - cost*

“If this measurement stuff is so good, how come we can’t get more people to actually use it?”

Measurement Analyst

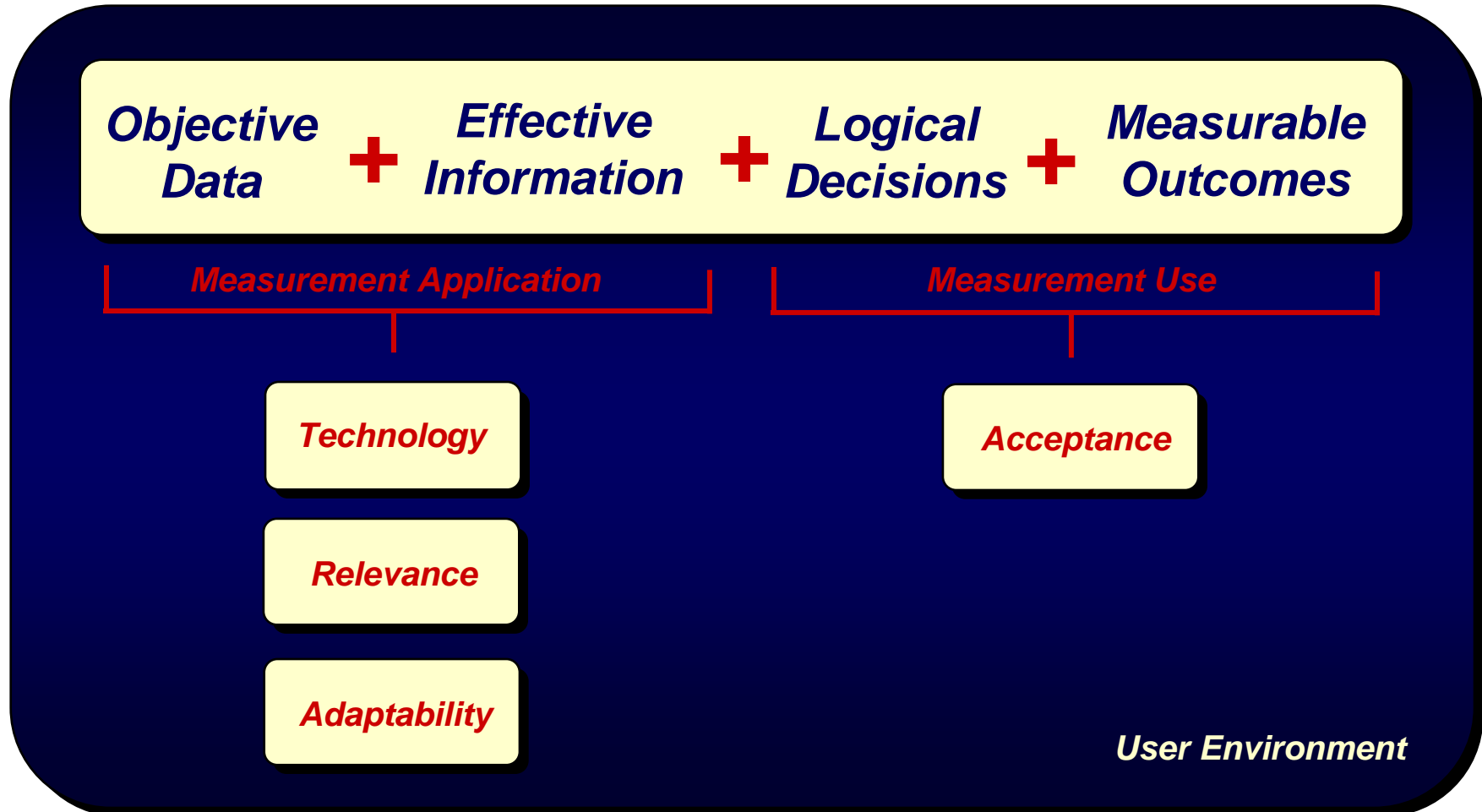
Measurement as a Practice



Measurement Acceptance Approaches

- ***The facts speak for themselves***
 - *if you have them they will come*
- ***Bulletproof the results - Clarify the answers***
 - *if we can only make the answers better*
- ***Process is its own reward***
 - *definition, implementation, improvement,*
- ***Vertical Integration***
 - *project, organization, enterprise, etc.*
- ***I do the numbers - You do the decisions***
 - *denial is also an approach*

Measurement as a Practice

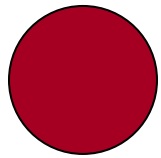


“After you have implemented your measurement process please complete the following:”

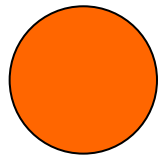
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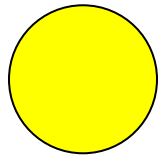
Simply Communicating the Results



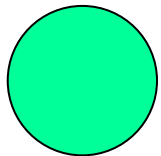
Bad, Really, Really Bad (Never Used)



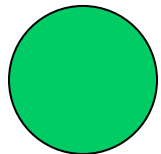
Bad, But We Don't Want to Tell You How Bad



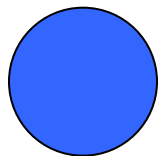
Good - But Not Real Good



Not Great, But Let's Pretend



Great - What You Wanted To See



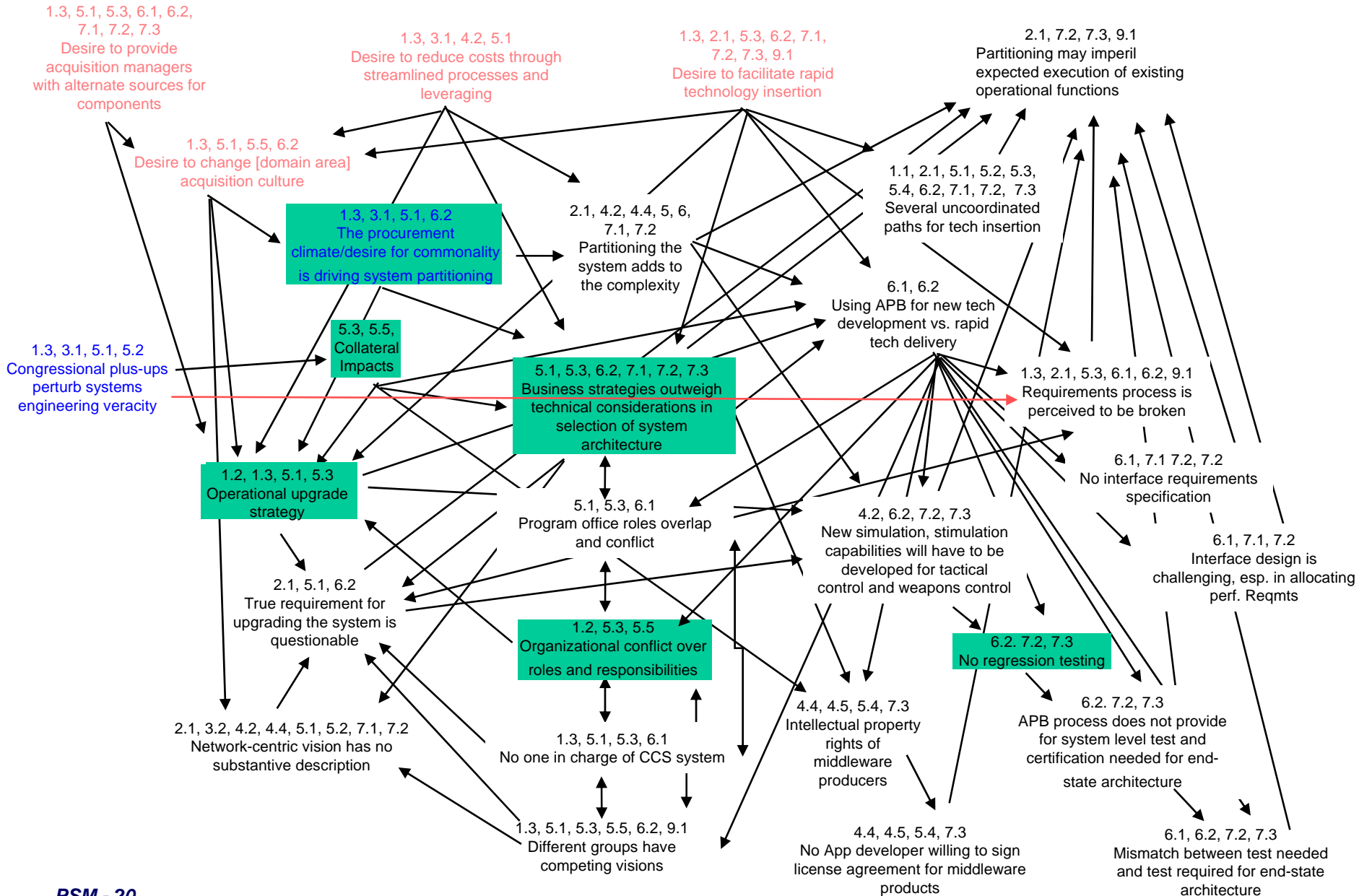
Great, Really, Really Great

Defining the Future of Measurement Practice

“Our project estimate is a little different than what you told the CEO”



Defining the Future of Measurement Practice



Real World Tradeoff Decisions



Defining the Future of Measurement Practice



“Why would we ever proceed without being able to objectively measure, track, and predict our performance outcomes”

Decision Maker

Measurement Acceptance Challenges

- ***Clear communication of actionable measurement results that decision makers want to use***
- ***Redirecting our focus from process to performance***
- ***Helping to create an environment where the “facts” are accepted - not ignored (or “enhanced”)***
- ***Linking measurement to “success” rather than the “prevention of failure”***
- ***Establish “predictive trust” in our results - objectively link the performance symptoms to the causes***

Group Discussion

- ***What is the Group's Experience?***
 - ***What are the "Acceptance" Success Stories?***
-
- ***Measurement Technical Requirements***
 - ***Measurement Application & Efficiency***
 - ***Communicating Measurement Results***
 - ***Performance Focus***
 - ***Acceptance and Use of Factual Results***
 - ***Measurement Linked to Success***
 - ***Predictive Trust - Validated Leading Indicators***

Next Steps

- ***Conference Workshop - Wednesday AM***
- ***2-day Workshop in New Jersey - Fall 2007***
- ***Interactive Development - PSM Web Site
(www.psmc.com, under Forum)***

Contact Information

Cheryl Jones

RDECOM - ARDEC

(973) 724-2644

cljones@pica.army.mil

John McGarry

RDECOM - ARDEC

(973) 724-7007

jmcgarry@pica.army.mil