

Enterprise Performance and Decision Analysis

We Value Fact-Based Decisions - We Just Don't Have The Facts



Joanne Arias and Jack McGarry

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

Presentation Concepts

- ***Enterprise information environment***
- ***Organizational information capability***
- ***Information capability “indicators”***
- ***The role of measurement***
- ***“Decision Grade Information”***

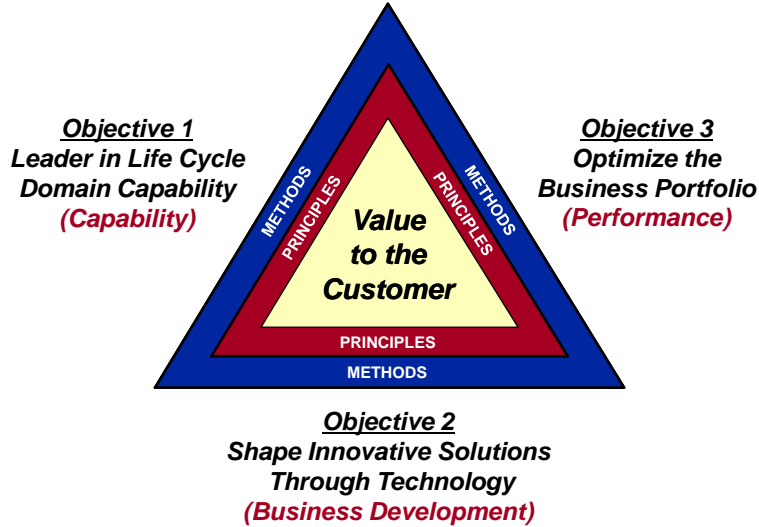
Case Study Overview

- **Government organization**
- **\$1.3 billion annual revenue**
- **Technology development, application, and transition**
- **Diverse customer base - strong customer focus**
- **Multi-tier organizational structure**
- **Traditional external management infrastructure**
- **Performance based objectives - progressive intent**
- **Highly regarded - external recognition**

Enterprise Information Environment

- **External Environment**
 - **Legislative, policy, and oversight driven mandates**
 - **Inherent information/reporting requirements - data calls**
 - **Imposed ERP information system capabilities**
 - **Significant influence on allocated resources and work efforts**
 - **Transactional structure - activity based - financial obligations**
- **Internal Environment**
 - **Explicitly defined enterprise functions - organizational design**
 - **Shared responsibilities - decision inter-relationships - governance**
 - **Diverse work types (R&D, production, engineering support, etc.)**
 - **Multiple business and technical processes - significant autonomy**
 - **Complex supplier-customer relationships, internal and external**
 - **Transaction driven - management of resources focus**

Organizational Objectives



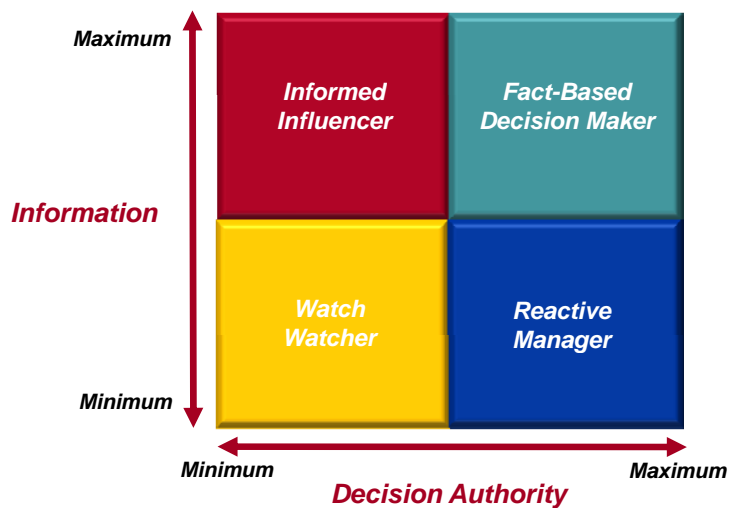
Principles and Methods

- **Principles**
 - *Management of risk*
 - *Core competencies*
 - *Performance based*
 - *Quality products and services*
 - *Efficient resource utilization*
 - *Best value products and services*
 - *Flexibility and adaptability*
 - *Ethical behavior*
 - *Excellence*
- **Methods**
 - *Balanced portfolios*
 - *Structured innovation*
 - *Enterprise functions*
 - *Collaboration*
 - *Partnerships*
 - *Measurable indicators*
 - *Fact-based decisions*
 - *Continuous process improvement*
 - *Short and long term perspectives*
 - *Capable workforce*

Problem Statement

Senior executives do not have the objective information they need to make fact-based strategic and operational decisions

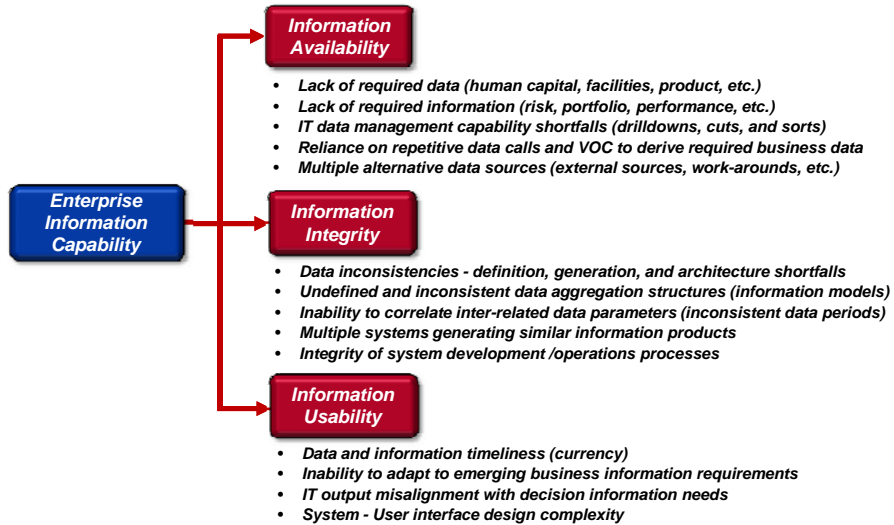
Where Are You?



Key Information Shortfalls

- **Human Capital** - human resources profile and resource application data
- **Facilities** - capability, capacity, and utilization information
- **Work Profile** - work characterization and context information (type, size, resource, customer, funding, mission, technology, success criteria, risk, timeline, etc.)
- **Performance** - work execution output data tied to cost, schedule, and pre-defined objectives/success criteria - for both individual projects and upper level aggregations
- **Measurable Baselines** - historical data, benchmarks, plans

Information Capability Factors



Measures of Organizational Productivity?

$\frac{\text{Annual Revenue}}{\text{Number of Employees}}$ <p>(\$/People)</p>	$\frac{\text{Sick Hours Used}}{\text{Hours Worked}}$ <p>(Hours/Hours)</p>
---	---

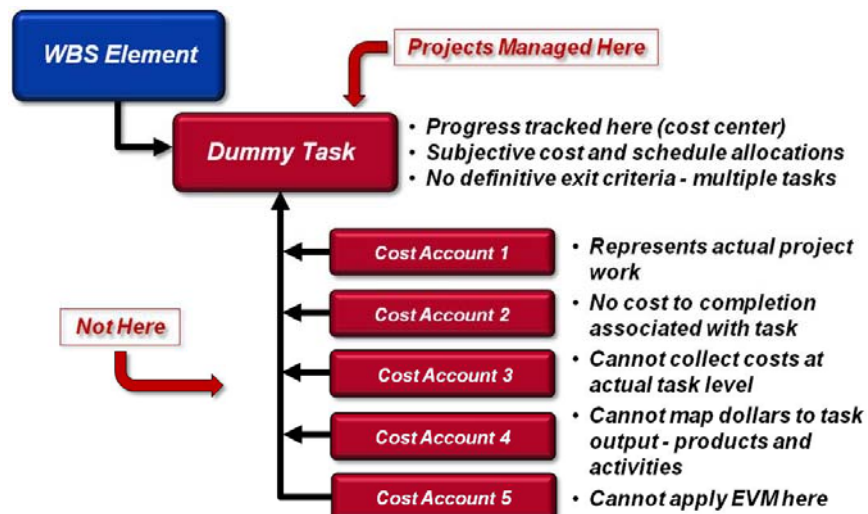
Information Capability “Indicators”
(The Big Three)

- **Tool First**
- **Top Down**
- **One Size Fits All**

Information Capability “Indicators” (Additional - Partial List)

- *Non-adherence to fundamental business and technical principles - major compromises*
- *Infrastructure and corporate process misalignments*
- *Inadequate differentiation - management of work*
- *Lack of information needs - system requirements*
- *Separate management of related parameters (C/S/P/Q)*
- *Reliance on VOC - data calls - subjective data*
- *Responsible organizations not accountable for results*
- *Belief that activity automatically results in performance (Shazaam!)*

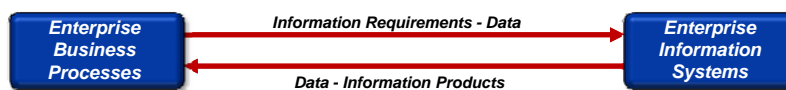
Example - Project Management Cost Accounts



What Needs To Be Aligned?

- **External expectations - reporting mandates**
- **Organizational objectives**
- **Business and technical processes**
- **Capabilities - investments**
- **Requirements - information needs**
- **Information systems**
- **Management of work**
- **Reward structures**
- **Decision authority - accountability**

Business Process - Information Systems Interface



Two Competing Enterprise Information Strategies

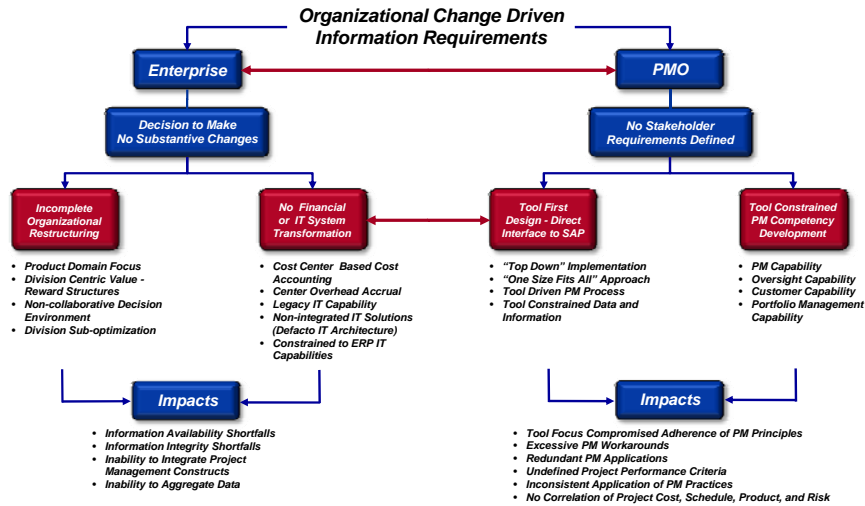
Enterprise IT system capability drives business process design (System First)

- Minimal changes allowed to existing data/information capabilities
- Defer emerging business information requirements to higher level ERP implementations

Business process information requirements drive IT system capability (Business First)

- Dynamic information environment (process maturity, business environment)
- Process defined data, information needs, and information products
- Business organizations develop stand-alone data and information systems to meet organizational user needs

Integrated Example - Project Management

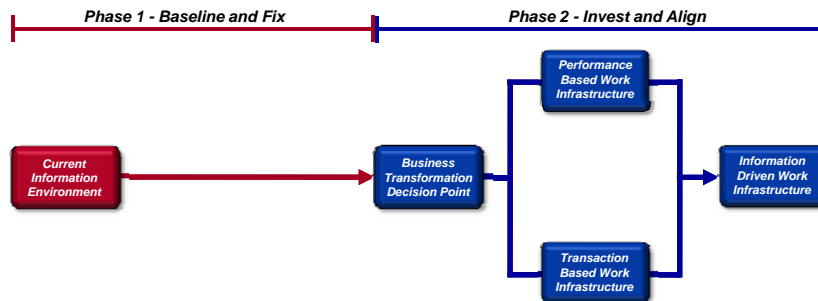


Information Impacts

- **Focus on financial obligations - not value for money (activity vs. performance)**
- **Accruals against organizational cost centers - not well defined work packages (projects)**
- **Could not tie applied resources to work output - products and services**
- **Could not aggregate data to drive enterprise functions**
- **Could not define IT system requirements - internally or externally (ERP)**
- **Proliferation of independent information systems**
- **Separate management of cost - schedule - output**
- **Not enough valid information to drive change**

Enterprise Performance and Decision Analysis

Information - Decision Timeline



Phase 1 Objectives

- Correct critical process shortfalls
- Characterize work
- Characterize workforce and facilities
- Formally define information needs
- Baseline business process & IT capabilities
- Clarify and enforce decision authority

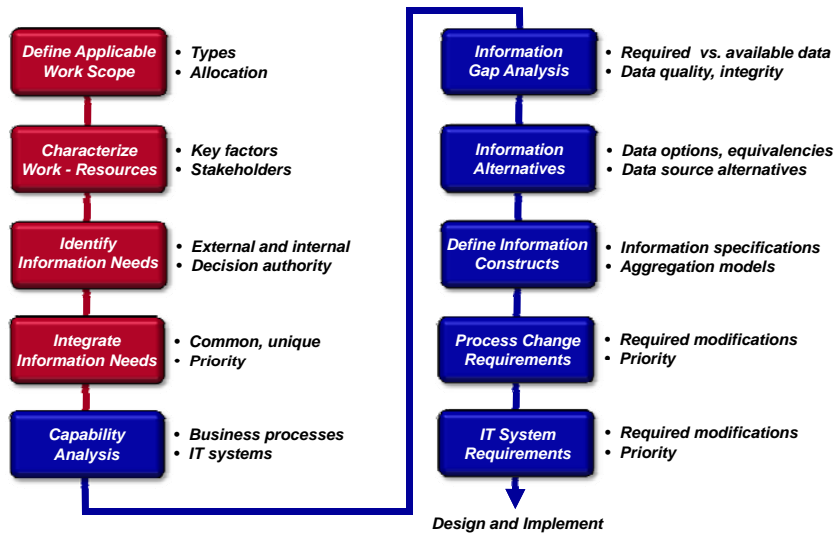
Phase 2 Objectives

- Identify and prioritize gaps and change requirements
- Ongoing internal and external risk assessment
- Proposed investment business case analysis
- Process and systems re-engineering
- Re-engineering initiative management

19 - 27 July 2010

Enterprise Performance and Decision Analysis

Enterprise Information Analysis



Some Final Thoughts

- **To objective is “Decision Grade” information - trusted data that is available when required - where required**
- **The fundamentals are really important**
 - Adherence to business and technical principles
 - Explicitly defined information requirements
 - Information environment designed to support objectives
- **Information capability is a function of complex interrelationships**
 - Alignment of information needs, processes, and infrastructure
 - Ability to aggregate and analyze data at multiple decision levels
 - All of the little compromises add up
- **The enterprise must be information driven - requirements based**
 - Information valued as a corporate asset
 - Capacity to use the results ... correctly
 - Understanding that new information needs may not be immediately satisfied

Famous Case Study Quotes

- **“We are a performance based organization”**
- **“We are only worried about the obligation of funds”**
- **“Performance? We don’t have to worry about performance”**
- **“We just apply people to spend the money”**
- **“We did not think that we had to make any IT changes to support a performance based approach”**
- **“A 60% solution is good enough”**
- **“We have a full set of stakeholder requirements in our interface design document”**
- **“We value fact based decisions - we just don’t have the facts”**

“Knowledge has power. It controls access to opportunity and advancement.”

Peter Drucker

“So much of what we call management consists of making it difficult for people to work.”

Peter Drucker

Additional Information

Decision Incentives

- **Compelling reasons? Today? Tomorrow?**
 - **Value to customers**
- **Other factors?**
 - **Ability to influence capabilities and constraints**
 - **Ability to justify decisions**
 - **Ability to stay ahead of the curve**
 - **Efficient alignment of resources - dollars - outputs**
 - **Flexibility - enhanced ability to deal with change**
 - **Projected business environment - risk**

Phase 1 - Immediate Actions

- **Fix - Fundamental project management process shortfall - separate management of task cost - schedule - output**
 - **Implement across primary project portfolio**
 - **Define explicit task exit criteria - tied to EVM**
 - **Establish cost accounts at the task level**
 - **Define project WBS's to support project tasks, not cost center accounting**
 - **Link task outputs to measurable objectives**
 - **Drive initial project plans based on tasks, not dollars - then do trades**
 - **Implement separate IT support systems if necessary (short term?)**
 - **Explicitly define periodic project performance information reporting requirements**
 - **Align project review process and priorities based on project performance objectives and data - document decision criteria**

Enterprise Performance and Decision Analysis

Phase 1 - Immediate Actions

- **Fix - Responsibility for project/work performance**
 - *Assign full management decision authority, responsibility, and accountability for project performance to the lead technical center - cost, schedule, output, and achievement of technical requirements*
 - *Enterprise manager responsible for project performance oversight*
 - *Technical managers responsible for project performance information availability, integrity, and usability based on joint information requirements*
 - *Define the customers, the suppliers, and expected relationships*

27 - 27 July 2010

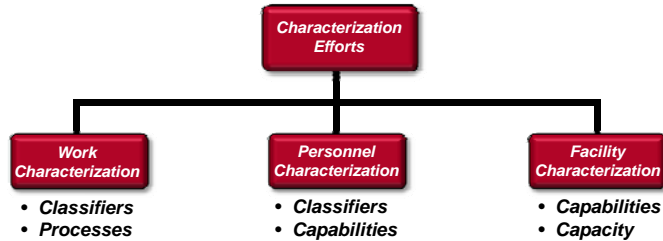
Enterprise Performance and Decision Analysis

Phase 1 - Immediate Actions

- **Fix - The organization's tool first approach to implementing information systems**
 - *Manage IT capability as an integrated corporate asset*
 - *Establish an IT requirements board with representation from all organizations to collect, integrate, and prioritize stakeholder information requirements and to optimize our investment in IT solutions*
 - *Base IT investments (new capabilities, upgrades, etc.) on formal information requirements, not available tools*
 - *Match IT system capability to corporate business processes, not the other way around (this assumes the business processes have already been matched to specific management of work requirements)*
 - *Allocate IT investment funds based on prioritized requirements*
 - *Choose an IT supplier /developer based on best technical and management capability (internal or external)*
 - *Influence prospective ERP capability based on well defined organizational information requirements*

28 - 27 July 2010

Phase 1 - Business and Resource Characterization



Purpose

- *To classify and categorize enterprise work and resources so that they can be effectively and efficiently aligned*
- *To optimize customer outputs - products and services*
- *To provide a basis for explicitly defining corporate decision information needs*

Work Characterization - Typology Example

- *Type (project, transactional, etc.)*
- *Scope (tasks, boundaries, interfaces, etc.)*
- *Output (products, services, etc.)*
- *Objectives (success criteria, exit criteria, etc.)*
- *Customer (external, internal, overhead, etc.)*
- *Funding (source, type, amount, etc.)*
- *Personnel Resources (quantity, competency, experience, etc.)*
- *Contractor Resources (quantity, funding, task allocation, etc.)*
- *Facility Requirements (type, purpose, use, etc.)*
- *Team Structure (lead organization, participating organizations, etc.)*
- *Competency (mission, product focus, technologies, etc.)*
- *Risk (internal, external, assumptions, constraints)*
- *Process (primary, supporting, etc.)*
- *Stability (requirements, outputs, etc.)*
- *Timeline (duration, concurrent activities, interdependencies, etc.)*
- *Reporting Mandates (external, internal)*
- *Decision Authority (funding, execution, customer interface, etc.)*
- *Other characteristics*

Contact Information

Joanne Arias
RDECOM - ARDEC
(973) 724-2270
joanne.arias@us.army.mil

John McGarry
RDECOM - ARDEC
(973) 724-7007
john.mcgarry@us.army.mil
