ESS 2008
Poster Session

Commonality in Enterprise Product Development Processes

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Problem

"Companies made up of many different business units will face an important question as they make the shift to a process enterprise:

Should all units do things the same way, or should they be allowed to tailor the process to their own needs?

In a process enterprise the key structural issue is…**process standardization versus process diversity**.

There's no one right answer."

Hammer and Stanton, 1999

Motivation

"The need to achieve organizationwide convergence of development processes often **conflicts** with the need to execute projects that vary widely in nature, scope, duration, or sophistication."

Ramaswamy, 2001

Standardization
- "Standard development processes are the **only conceivable way to run a multi-project development factory** and gauge the performance and progress of any individual program."
  Morgan and Liker, Toyota Product Development System, 2006
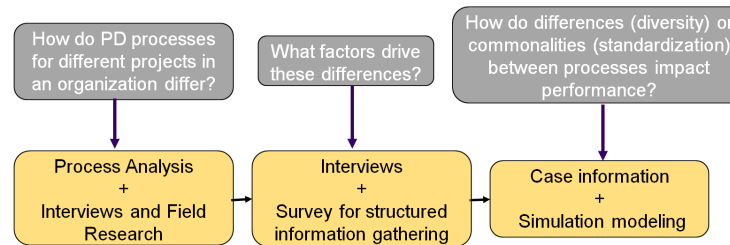
Diversity
- A 'one-size-fits-all' approach is difficult to work in product development.
  MacCormack and Vergnanti, 2003; Lindvall and Rus, 2000.
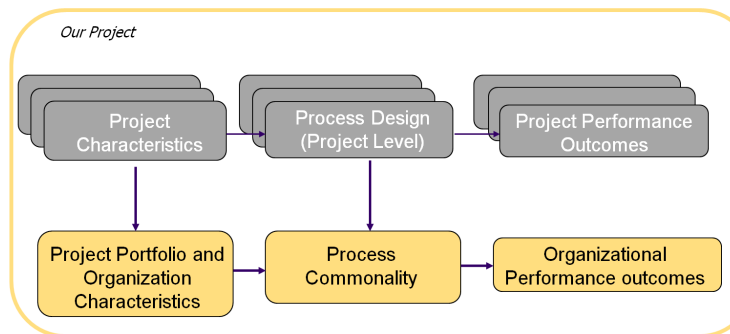
Overarching Question

What is the *right* level of commonality across product development processes for a given context in an organization and how can it be managed?

Research Questions and Design

How do PD processes for different projects in an organization differ?

What factors drive these differences?

How do differences (diversity) or commonalities (standardization) between processes impact performance?

Process Analysis + Interviews and Field Research

Interviews + Survey for structured information gathering

Case information + Simulation modeling

Research Framework

Our Project

Project Characteristics → Process Design (Project Level) → Project Performance Outcomes

Project Portfolio and Organization Characteristics → Process Commonality → Organizational Performance outcomes

Preliminary Results

- "Variety decisions are driven by a combination of inertia, historical precedent, ad hoc criteria, and rational decision-making." (Ramdas, 2003)

- Breaking down process standardization into commonality along various process attributes or dimensions provides opportunities for much more fine grained analysis

- Process attributes along which standardization provides benefits may not entirely coincide with those that drive project performance outcomes. This provides opportunities to harness benefits of both standardization and diversity

Next Steps

- Test and create measures of process commonality working with process database
- Select and develop coding for projects and work with database to test project-process characteristic correlations
- Develop interview/survey method to elicit factors driving process variation and then rank them by relative importance
- Create conceptual foundations for model by determining from literature which links are well-established and their strength etc.

Expected Contributions

- Creation of a measure of process commonality
- Understanding of factors that drive process variation
- Methods to help understand the effect of process standardization or diversity on performance on project-level and organization-level outcomes

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