

Start date: September 2007
Research Group: Lean Advancement Initiative

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Motivation / Problem

- > Traditionally enterprises have been reactively architected to accommodate stringent performance requirements of large scale product systems
- > Long product development lead times and uncertainties due to rapidly changing operating environments, technologies and other factors are causing a shift in emphasis from traditional performance metrics to dynamic properties such as agility, evolvability, and sustainability
- > These properties may be achieved through complimentary enterprise and product architectures

Key Questions

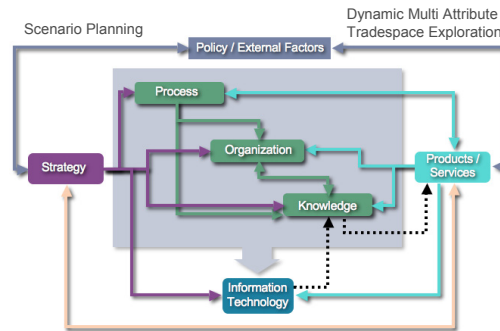
- > How can complimentary enterprise and product architectures be designed to enable system-level dynamic properties that deliver sustained stakeholder value?
- > What are the factors and mechanisms enabling or inhibiting successful architectural co-evolution?

Research Goals

- > Improve socio-technical decision making in large scale product acquisition and development by allowing concurrent consideration of enterprise and product architecture trades in context
- > Identify and evaluate complimentary product and enterprise architecture strategies that enable system-level properties to deliver stakeholder value across the lifecycle
- > Identify logical influences of architectural strategy on soft emergent values (e.g. accountability, trust, etc.)

The Research

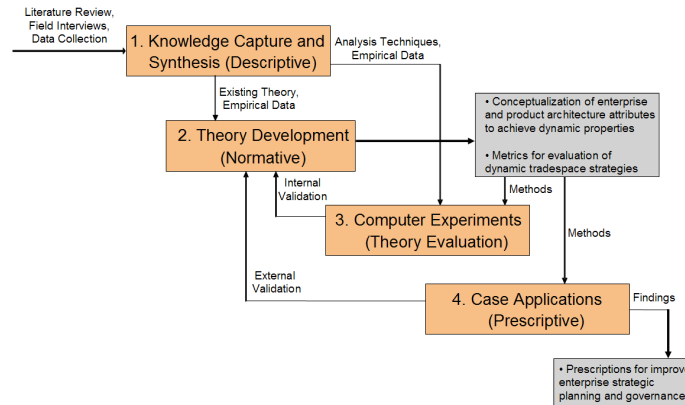
Strategic Enterprise and Product Architecting



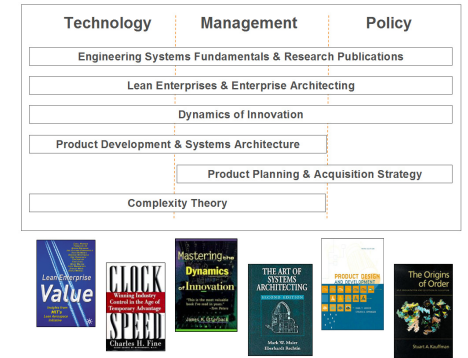
Strategic alignment of the Enterprise and Product Architectures to enable dynamic properties that deliver stakeholder value across the lifecycle

Research Design

This research is conducted with an iterative concurrent process using qualitative and quantitative methods



Literature Review



Timeline

Program Start, Coursework, Research Exploration	Coursework, Research Definition, Literature Review	Coursework, Research Substantiation & Proposal, General Exams	Data Gathering Theory Development, Conference Publications	Data & Theory Refinement, Computer Simulations	Computer Simulations, Case Applications, Conference Publications	Synthesis & Refinement, Impact & Outreach Activities	Dissertation Journal Publications
Fall 2007	Spring 2008	Fall 2008	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Spring 2011

Expected Contributions

- > Advancing enterprise and product architecting core theory
- > Development of a method to enable evaluation of alternative enterprise and product architectures in context
- > Development of metrics for strategic dynamic properties of enterprise and product architectural combinations
- > Enabling more effective enterprise and product strategic planning and governance

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