Recent LAI PD VSM Research

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April 18, 2006
Overview

• LAI PDVSM 1.0 released
  • Predecessors in widespread (?) distribution and use (??) in the LAI consortium

• Several recent research projects completed using value stream mapping in PD
  • Kato—Waste in PD
  • Whitaker—VSM and EVMS
  • MacKenzie—VSM in USAF SPOs

• Evidence of significant PDVSM activities among LAI consortium members

• Where do we stand as a learning community?
  • What are the next steps?
Product Development Value Stream Mapping (PDVSM)

Tactical guide to applying value stream mapping techniques to PD, engineering, and other “off-the-floor” processes
Embedded Software Development VSM

Investigation Phase (around 100 tasks)

Construction Phase (around 350 tasks)
Hardware/Software Development Program VSM (Part of Major System)

Small USAF Acquisition Program VSM

Source: Scott MacKenzie, Utilizing Value Stream Mapping
In Air Force Acquisition Program Offices, MIT Master’s Thesis, January 2006
Value Measurement

• Earned Value Management System (EVMS) commonly used to measure and manage PD, but can suffer from lack of tight linkages to actual value-creating activities in PD

• Initial research shows compatibility between value stream thinking in PD and EVMS, but little current convergence

Observations About the Current State of the Research

- We are pushing the limits of traditional VSM tools to represent complex projects
  - Forced by limitations of existing methods to create VSMs at the level of local activities
  - VSMs of more complex activities resemble Gantt charts—ineffect measures of value creation processes and the state of the processes that are producing the product
- Working premise is that uncertainty reduction activities are a surrogate for value creation progress in PD
  - Existing measures (EVMS) used for PD management can distract from true levels of uncertainty in development effort
  - Mismatch between level of measurement (EVMS elements) and work processes suggest limited potential impact of measurement system on actual behavior
- Existing management tools at program level could be improved to provide additional insight into state of the process, and flow of value through the system