



Implementing SciVal Experts at the University of Michigan

Delivering Value by understanding Socio-Technical Challenges and Organizational Maturity



Jeff Horon, Elsevier, Inc.
Michael Warden, Elsevier, Inc.

Capability Maturity Model® Integration (CMMI):

Started from Carnegie Mellon University, CMMI is a framework that describes key elements of effective processes, helping to guide the evolutionary improvement of ad hoc activities into mature processes.

Infrastructure Theory:

Star and Ruhleder (1994) summarized three levels of infrastructural issues that create challenges to technology adoption and implementation. These issues include: (1) making the technologies available, (2) “unforeseen contextual effects,” (3) and expectations of stakeholders and how these needs and expectations relate to second level issues.

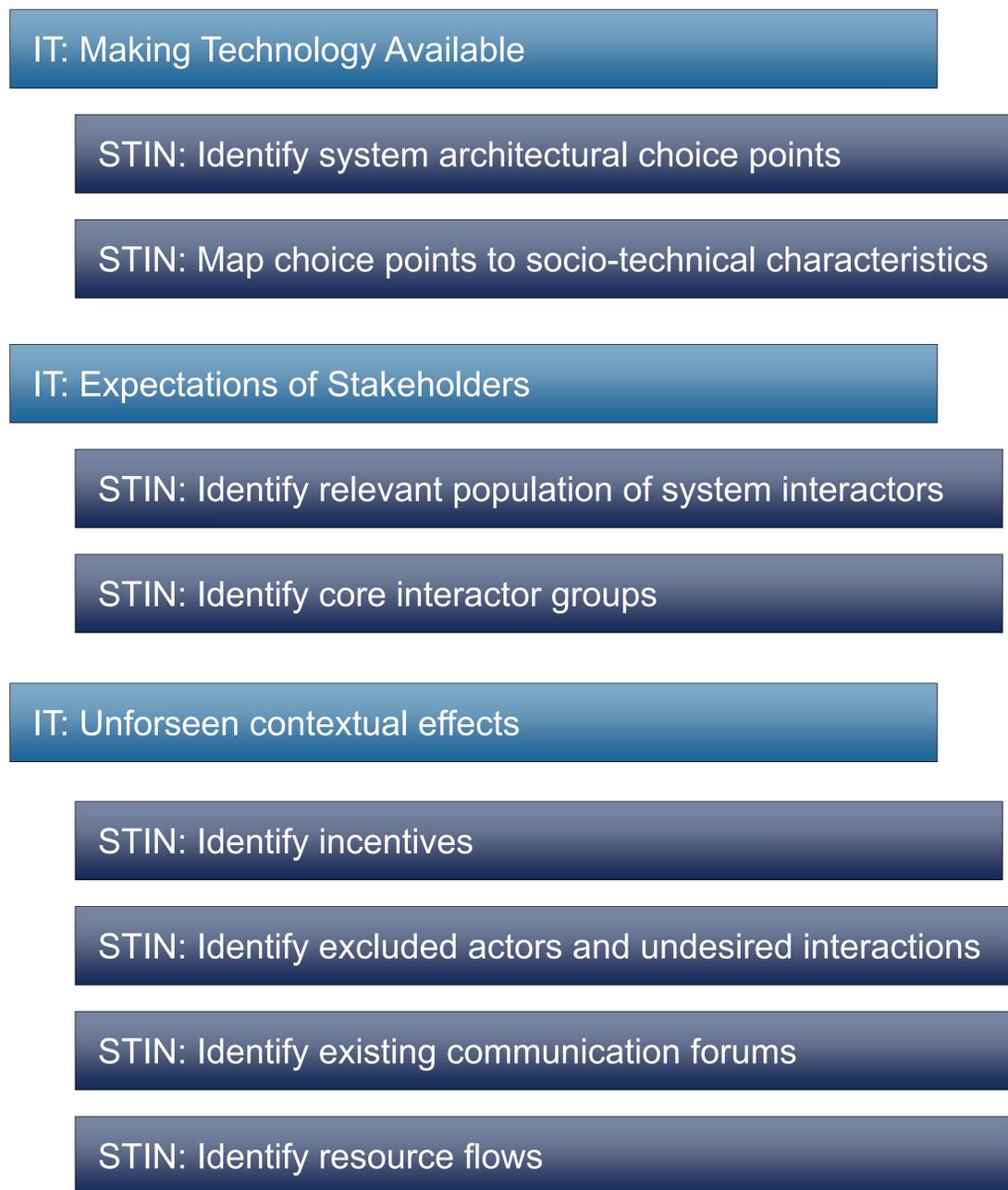
Socio-Technical Interaction Networks model

Socio-technical Interaction Networks (STIN) (Meyer 2006) provide heuristics to determine a relevant population of system interactors— identifying a series of variables describing the socio-technical setting .

CMMI level of organization



IT+STIN Intervention Model To Advance CMMI Levels



With SciVal Experts, **making the technology available was comparatively simple**, but the choice to select a vendor-provided tool, with known strengths and weaknesses was more complicated. The choice points of **'build vs. buy'** and of selecting a tool using only PubMed data were mapped to the significant effort a homegrown system would require. This choice point of 'build and populate' vs. 'buy and distribute' has been a central focus of the educational rollout. Throughout the implementation, **showing the researchers that careful thought was put into this choice point has been essential** to adoption.

Defining the stakeholders for a research networking and faculty expertise system is challenging due to the number of individuals who are **interested in 'what faculty know'**.

At Michigan this includes, among many others:

- Research Administration and Department Leadership
- Information Technology
- Strategic Planning
- Development, Public Relations and other externally focused groups

Unforseen contextual effects experienced at Michigan:

- Department initiatives for capturing faculty information
- Technical integration and capabilities across Departments
- Relationships with University-wide initiatives
- Faculty-like staff—individuals who have expertise to share with the organization through their academic activity but are not faculty and therefore not profiled.
- Individual faculty practices or research initiatives
- Leadership preferences across institution
- Disagreement about a research networking tool being worth the investment rather than internal initiatives

