

Best Practices in Research Thrust Management
Dec 4, 2008 Bethesda, MD, NSF ERC Annual Meeting
Chapter Outline Draft

1. Intro: What is the role of the Thrust Leader

- a) Responsibility: Site leader, thrust leader & directors
- b) Authority
- c) Resources

2. Developing Strategic plan: subtopics

Thrust leaders act as advisory role between PIs and directors but not necessarily as authoritative role unless given that authority explicitly

a) Structure and authority

- the position of the thrust leader within the management structure must be clearly defined (there is a wide range of opinion on the authority or the roles and expectations); should it be flat or hierarchical structure may decide upon each center?
- thrust leader must decide frequency and methods of meetings/communication

b) Maintain the ERC vision

- clear statement of vision
- mapping of vision into thrust
- define objectives that fall into thrusts, show how they are linked, and how people can respond to them

c) Defining thrusts

- define thrusts by discipline, by goals, or levels of three plane diagram
- thrust leader in supportive role to directors to maintain ERC vision

d) *identifying* integration across test-beds

- ensure your PIs within trust contribute to testbed (helps innovate, demonstrate)
- thrust leader is marketer of vision to individual project leader and to outside (markets, products, industry, testbeds, etc.) – act as a facilitator to individual PIs to ILO

e) Project definition and selection

- if there are gaps, thrust leader is best positioned to address these gaps (whether in goals or testbeds or people, etc.) – will vary how thrusts are constituted
- at project level, the project needs to have a clear objective/milestones and how it fits into thrust (connection to strategic plan)
- for selection of projects, thrust leader must act in iterative fashion between individual projects and center's objectives

f) Creating buy-in

- key component: if this is successful, the remainder parts follow through even management styles different, structures can work if people buy into it

(hierarchical vs. flat: both may work)

- genuine vs. sufficient buy-in (proposal): need to create genuine buy-in
- create buy-in for graduate students

g) Case studies

hierarchical vs. flat structure

3. Executing Strategic plan

a) Communication

- ✓ use video-conferencing system/web-based communication system
- ✓ establish regular schedule of meetings
- ✓ record minutes for key meetings and decisions
- ✓ develop knowledge repository
- ✓ establish and disseminate reporting schedule

b) Human factors and management styles

- ✓ use team building management styles
- ✓ know backgrounds and capabilities of collaborators in center
- ✓ develop and articulate a conflict resolution strategy that everyone buys into

c) Budget and resource allocation

- ✓ thrust leaders should participate in budget and resource allocation process
- ✓ should have clear understanding of budgetary resources and budgetary responsibilities
- ✓ clearly communicate with director, colleagues, and subordinates about status of budget
- ✓ thrust leaders should be champions for change (reallocation of resources) within center

d) Maintaining integration to the center's vision

- ✓ closely monitor deliverables from thrust constituents for consistency with center vision

e) Reports and documentation

- ✓ oversee collection of relevant information for preparation of annual reports
- ✓ prepare section of annual report relevant to thrust activities
- ✓ review and provide feedback to other thrust leaders and director regarding other components of annual report

f) Project assessment

- ✓ in collaboration with constituents, develop metrics for assessing performance
- ✓ establish clearly communicate reporting schedule for outcomes, reports, and other deliverables
- ✓ review metrics and deliverables and provide feedback to project leaders on timely basis
- ✓ use project assessments to make recommendations for adjustments in budgets

g) Training

- ✓ professional development opportunities should be made available to thrust leaders
- h) Case studies
 - ✓ identify successful examples of each of the recommendations above

4. Integration with industry

- ✓ Periodic/Frequent Meetings with Industrial representatives
- ✓ Maintain description/highlights of thrust activities
- ✓ Point of contact for exploring external partners
- ✓ Coordinate Activities with ILO

5. Education integration to research

- ✓ Cultural Change Agent for interdisciplinary education
- ✓ Foster the development interdisciplinary content for new classes for graduate and undergraduate level, including injecting technologies developed in the Thrust into existing courses, especially into Capstone design courses
- ✓ Advocate/negotiate/provide resources (e.g. release time) for content interdisciplinary development
- ✓ Coordinate activities with the Director for Education