Proposal Development & Writing

Virginia Dale

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First steps to proposal development at ORNL

- Determine if ORNL can respond to request
- Review evaluation criteria and determine if you can meet them
- Determine participants and develop rough budget to see what can be covered
- Get to know the sponsor and their objectives and style
- Develop goals for proposal that align with your strengths and sponsor's objectives
- Develop tasks to meet goals
  - Flesh out tasks: who, what, where, how, when
  - Determine order of task initiation and completion

Next steps to proposal development at ORNL

- Formulate proposal writing strategy
  - Develop a basic, persuasive format
  - Organize and write the first draft
  - Write effective executive summaries
  - Design appropriate graphics
  - Check that you are addressing sponsor's needs and the call
  - Does proposal "grab" reader in first three pages?
- Have proposal reviewed by tough and knowledgeable experts
- Revise and focus proposal
- Edit for clarity, style, and grammar

Parts of a proposal

- **Who:** who will do the work, who will manage the work, who does someone call if there is a problem or questions, who is responsible for what
  - Discriminate yourself from the competition
- **What:** what will be done/delivered, what will be required to do it, what can the program manager expect, what it will cost
  - Make the benefits of your approach be clear
- **Where:** where will the work be done, where will it be delivered
- **How:** how will be work be done, how will it be deployed, how will it be managed, how will you achieve quality assurance and customer satisfaction, how will risks be mitigated, how long will it take, how will the work benefit the program
- **When:** when will you start, when will key milestones be scheduled, when will the project be complete, when is payment due
- **Why:** why have you chosen the approach you have selected, what is the scientific context, why should you be selected to do this work

Components of a persuasive proposal (from Yosef Mackler)

- A creative topic that brings something new to science
- Scientific and technical merit worthy of support
- A comprehensive and well documented experimental/research plan and budget
- Presentation in a clear and concise style and easy-to read format, in accordance with application guidelines.

Editing tips

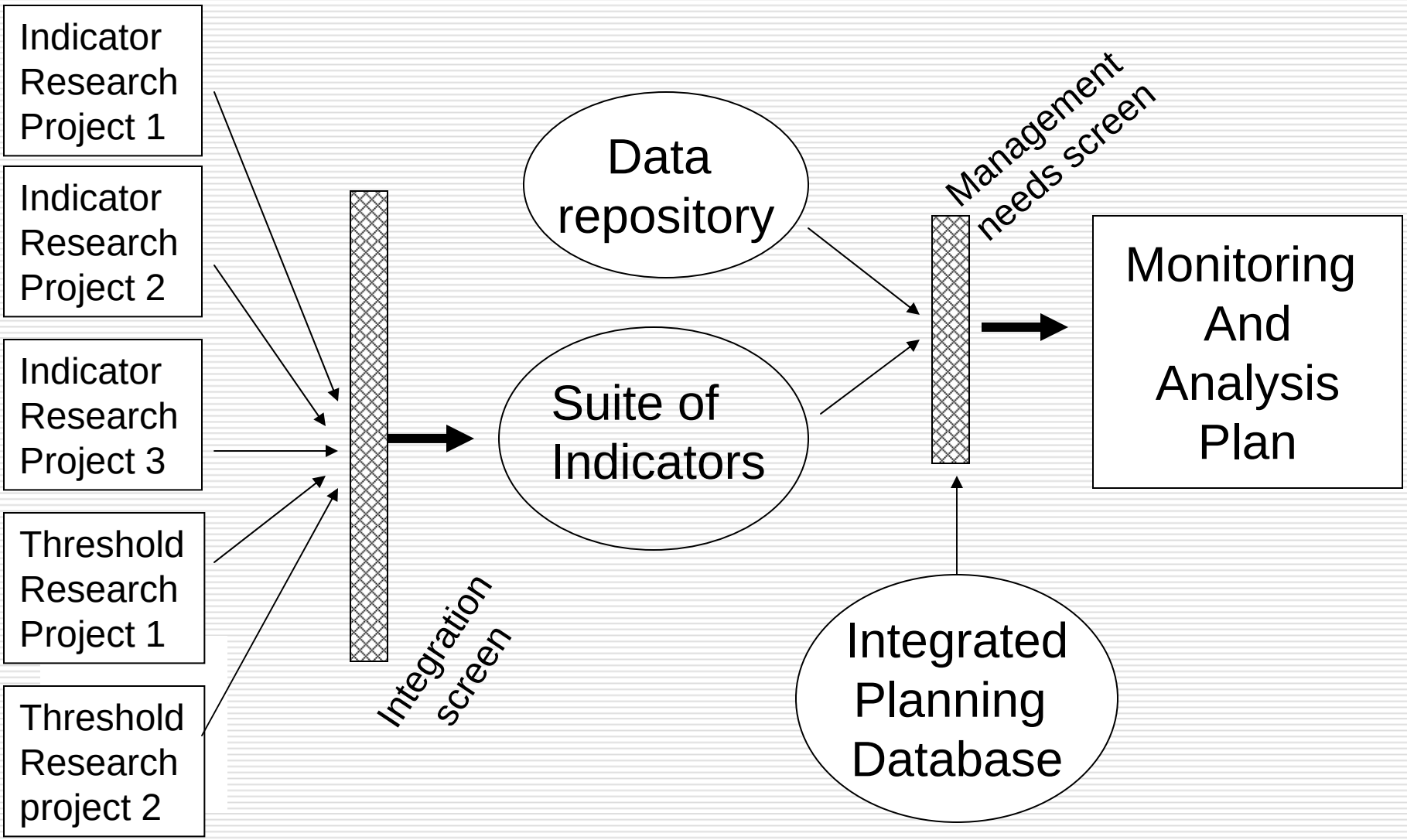
- After you've finished and spell-checked it, give it a rest. Then re-read it out loud.
- Be ruthless. Cut convoluted thoughts into the fewest words.
- Root out passive statements and change them into active ones.
- Use one idea per sentence.
- Check the math.
- Check for double meanings.
- Engage a professional editor

Use effective graphics

- Readable
- Understandable
- Make a needed statement – e.g.,
  - Flow chart of how interactions
  - Management plan

Procedure for Including Indicators in Decision Making Process

= Research + Characterization + Management Needs



NSF's Ten Most Common Errors Made in Research Proposals and Applications

- Ineligible proposal
- Failure to persuade the funder of three facts
  - What you want to do
  - Why you are qualified to carry out your research design
  - Why the topic is meaningful, of interest to the funder, and/or innovative
- Deadlines weren't met
- Instructions were not followed
- Vagueness
- Lack of clarity
- Weak recommendations
- Lack of sufficient advance planning regarding funding schedule
- Budget problems
- Omitted or irrelevant supplementary materials
- Sloppy presentation

What NSF wants in a proposal

- Objectives for the period of proposed work
- Expected significance
- Relation to long term goals of investigator's research
- Relation to present state of knowledge in the field
- Relation to related work in progress by investigator under other support
- Relation to related work in progress elsewhere
- General plan of work, broad design and adequate description of methods and procedures
- Not more than 15 pages single spaced

Final thoughts

- Start early – developing an innovative proposal takes a lot of time
- Build the best team (that's what ORNL can offer!)
- Emphasize ORNL's ability and reputation in delivering good science that applies to real world needs
- Outline and re-outline so final proposal is clear, logical, and interesting
- Get the details correct
- Persistence is crucial!!