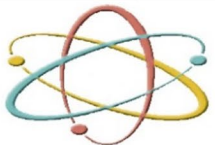


Logic Models for Strategic Planning & Evaluation

ERC Model Development Practicum

October 14, 2020



OFFICE OF INTEGRATIVE ACTIVITIES (OIA)
INTEGRATIVE ACTIVITIES EVALUATION & ASSESSMENT CAPABILITIES EPSCoR

Learning Objectives

Session attendees will be aware of the:

- Pre-kick-off Introduction
 - Evaluative inquiry cycle
 - Role of models in strategic planning and evaluation
 - Terms used in creating a theory of change and logic model
- Kick-off-Model Development Practicum
 - Concepts and terms from the introductory material
 - Steps in creating models
 - Steps to align models and strategic plan
 - Role of feedback and refinement

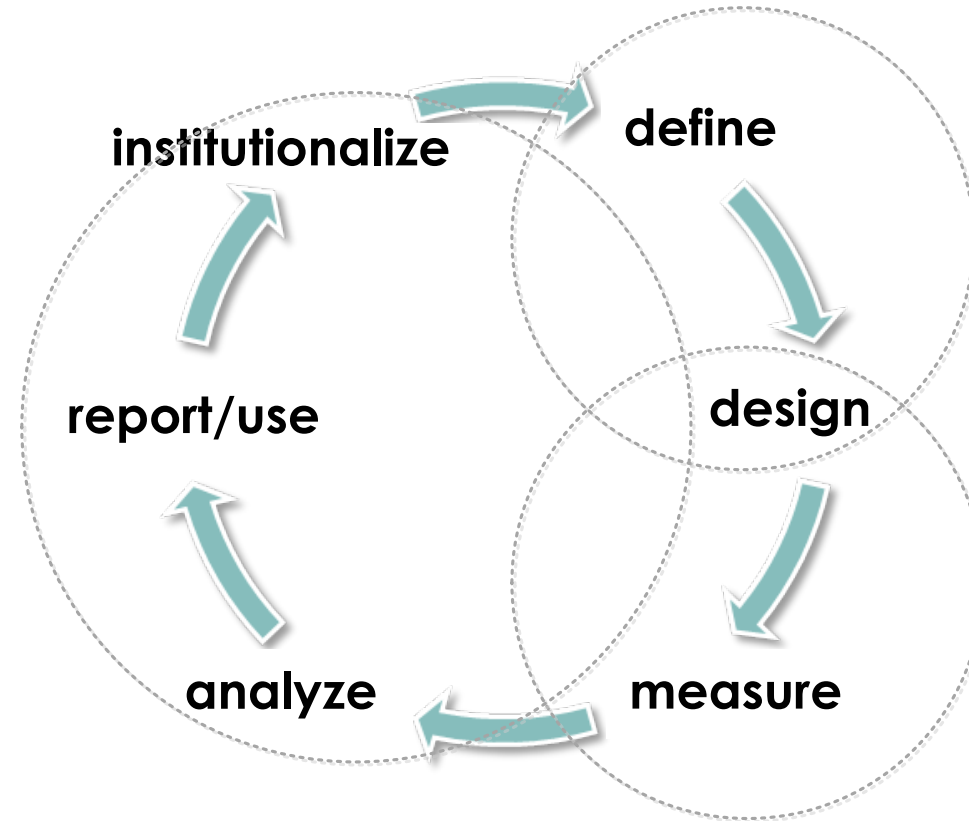
Introduction Refresh

Evaluative Inquiry Process

Strategic Plan

criteria for what constitutes evidence

1



Evaluation Plan

2

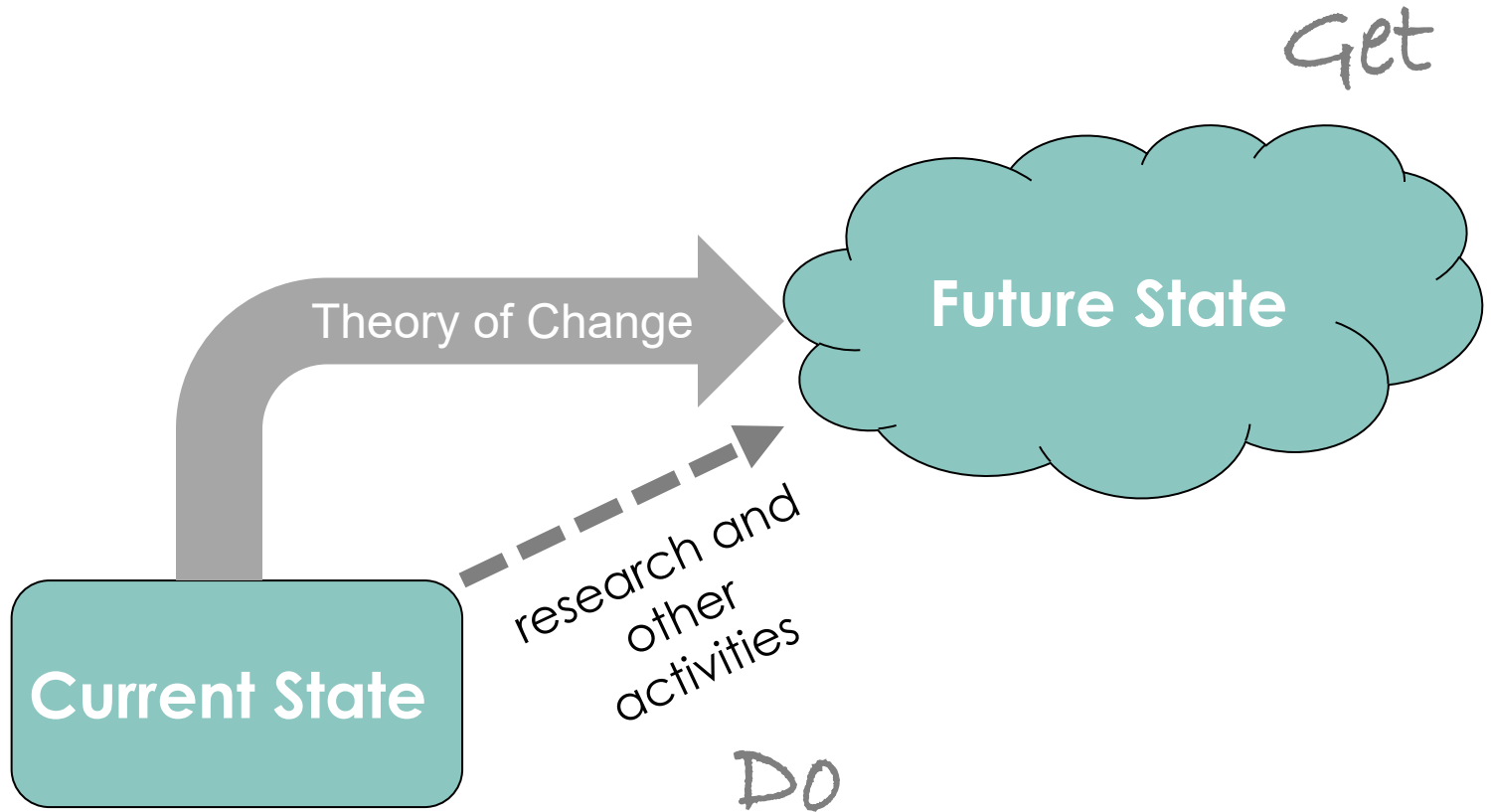
processes & methods for obtaining evidence

3

how evidence, once analyzed and synthesized, can be used

Annual Report

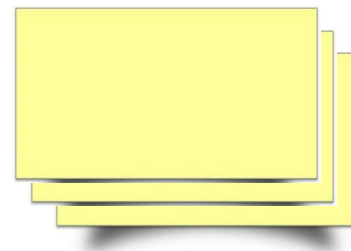
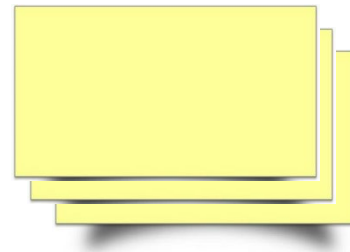
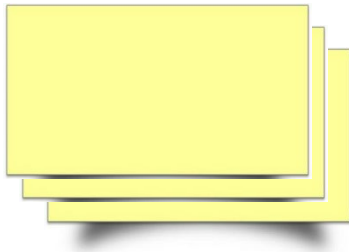
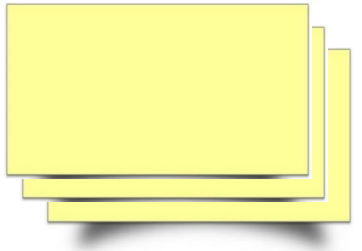
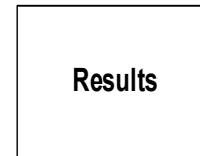
Mapping & Assessing Progress



Theory of Change (ToC)

DO

Get



Do

Get

Generic ERC ToC

Research

Increased research capabilities and new knowledge

Engineering Workforce Development

Diverse, globally competitive, team-oriented workforce

Innovation Ecosystem

Improved value chain, technology transfer, and entrepreneurial culture

Culture of Inclusion

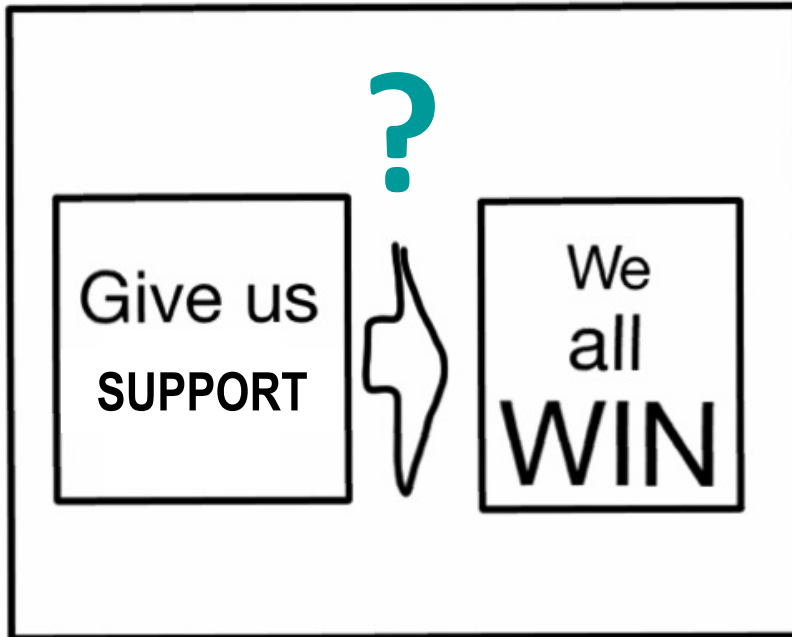
Increased engagement of underrepresented groups at all levels

Infrastructure & Management

Improved management, infrastructure, and implementation

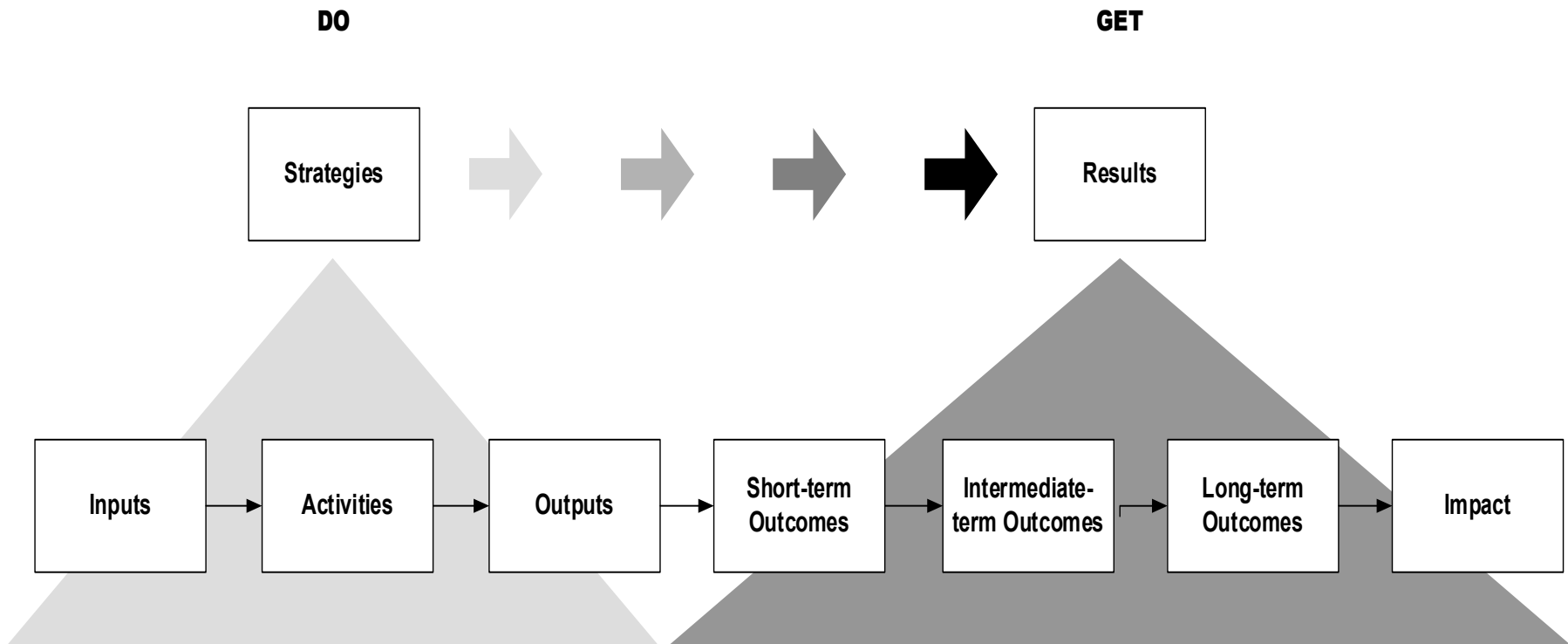
Do

Get



freshspectrum.com

Simple Logic Model



Logic Model Component Definitions

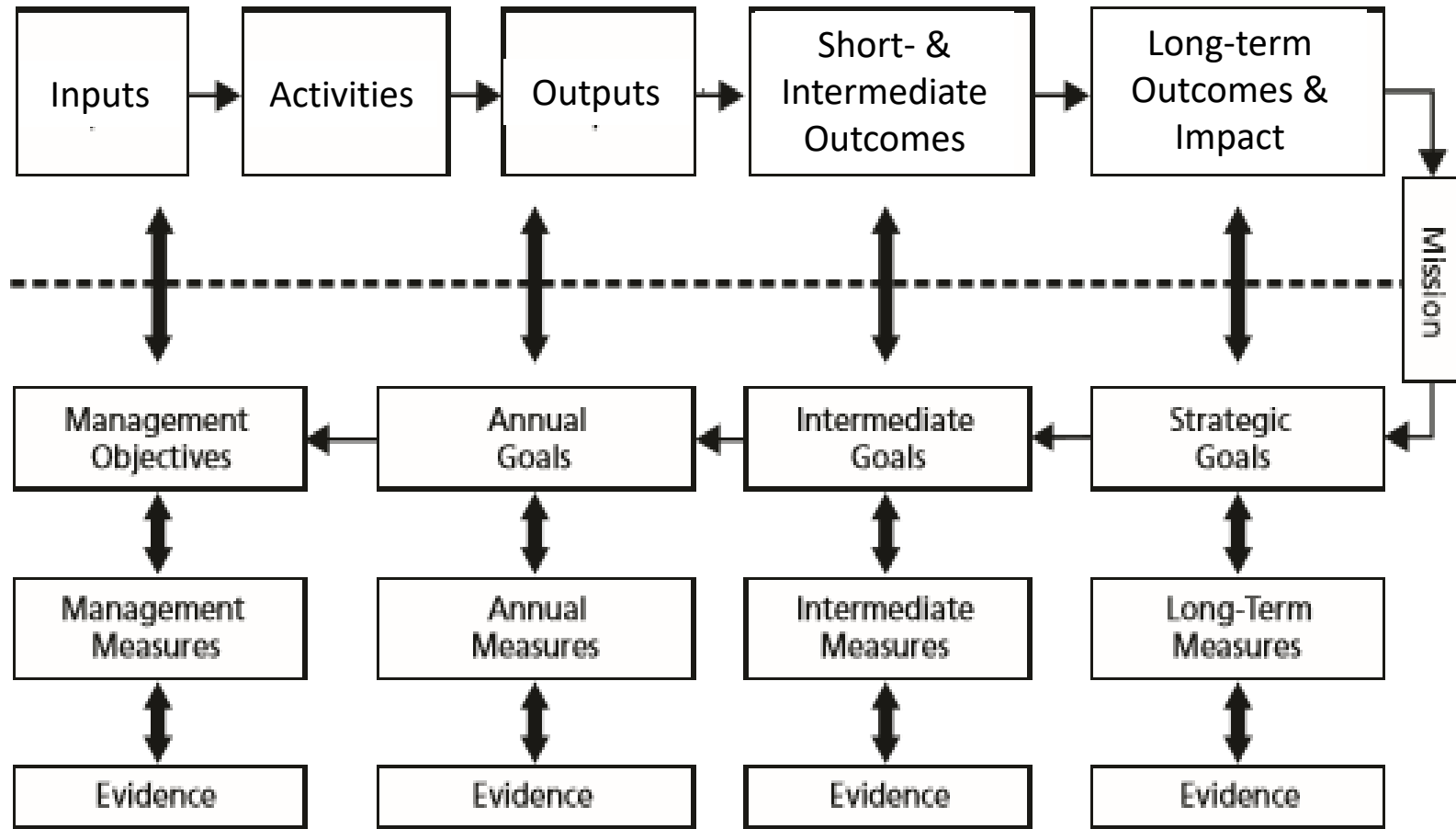
Term	Definition
Inputs	Include financial, human, organizational, community or systems resources essential to implement the project.
Activities	The specific actions that make up the project. They can include tools, processes, products, events, technology and other aspects of the intervention deployed to achieve desired results.
Outputs	Include descriptions of the types, levels and audience or targets for the project. Countable attributes of the activities if accomplished. (<u>F</u> requency, <u>I</u> ntensity, <u>T</u> argets)
Outcomes	The changes in project participants or organizations, as a result of the project. Can include changes in awareness, knowledge, skill, and behavior. (<u>S</u> pecific, <u>M</u> easurable, <u>A</u> ctionable, <u>R</u> ealistic, <u>T</u> imed)
Impact	The ultimate change in an organization, community or other system. Often occurs after the grant cycle has ended.

Developing Models

Strategic Plans are Roadmaps for Success

Logic Models Show How Success will be Measured

Evidence & Strategic Plan

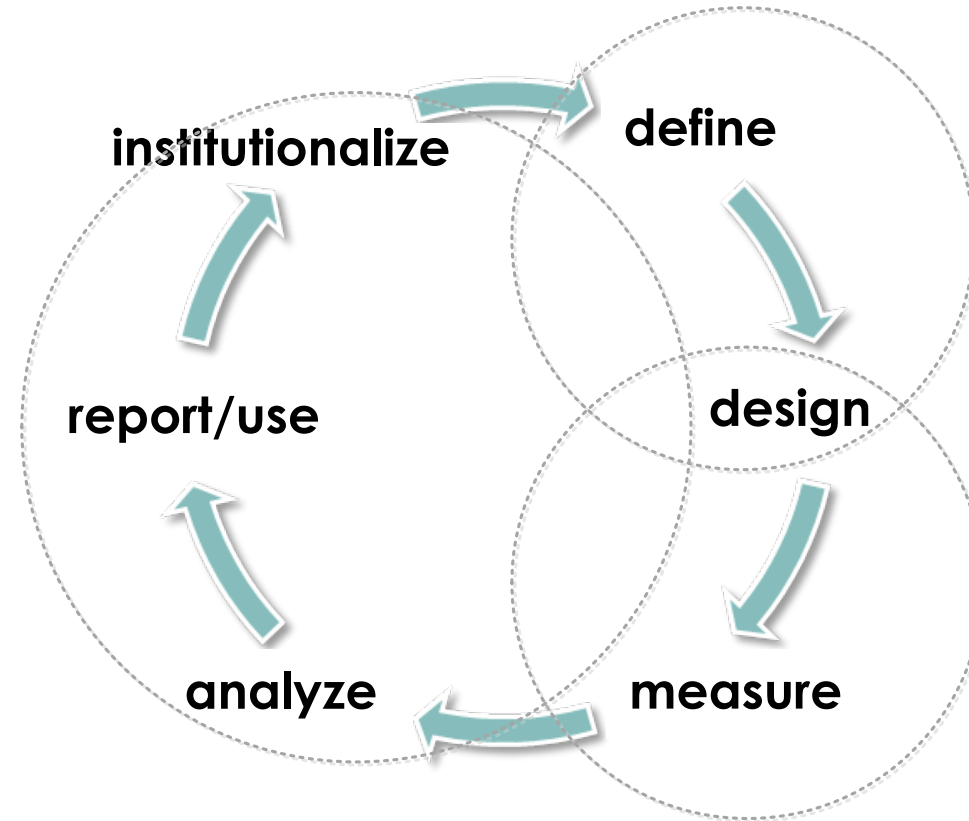


Evaluative Inquiry Process

Strategic Plan

criteria for what constitutes evidence

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Evaluation Plan

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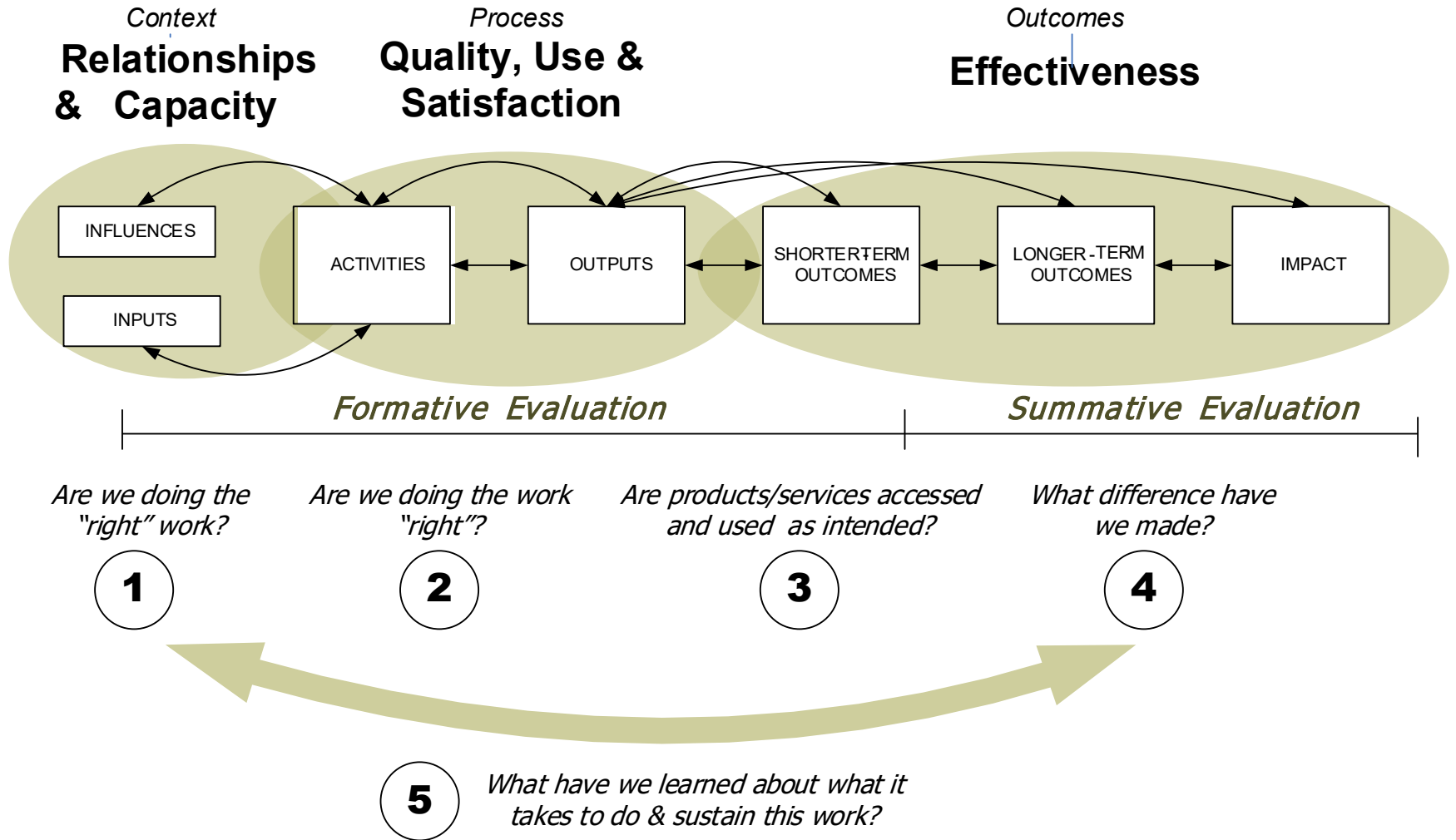
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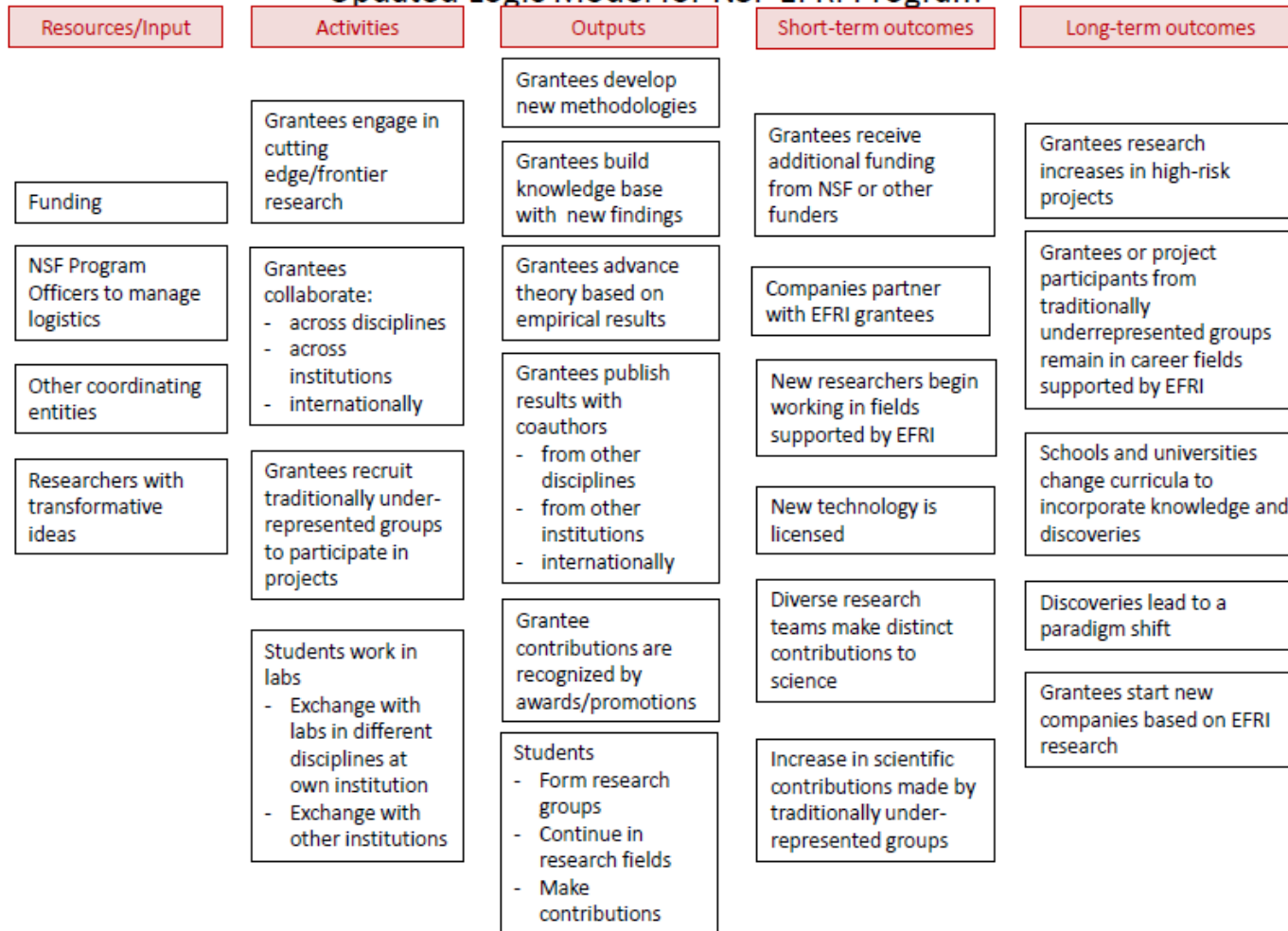
Annual Report

Models for Evaluation Planning



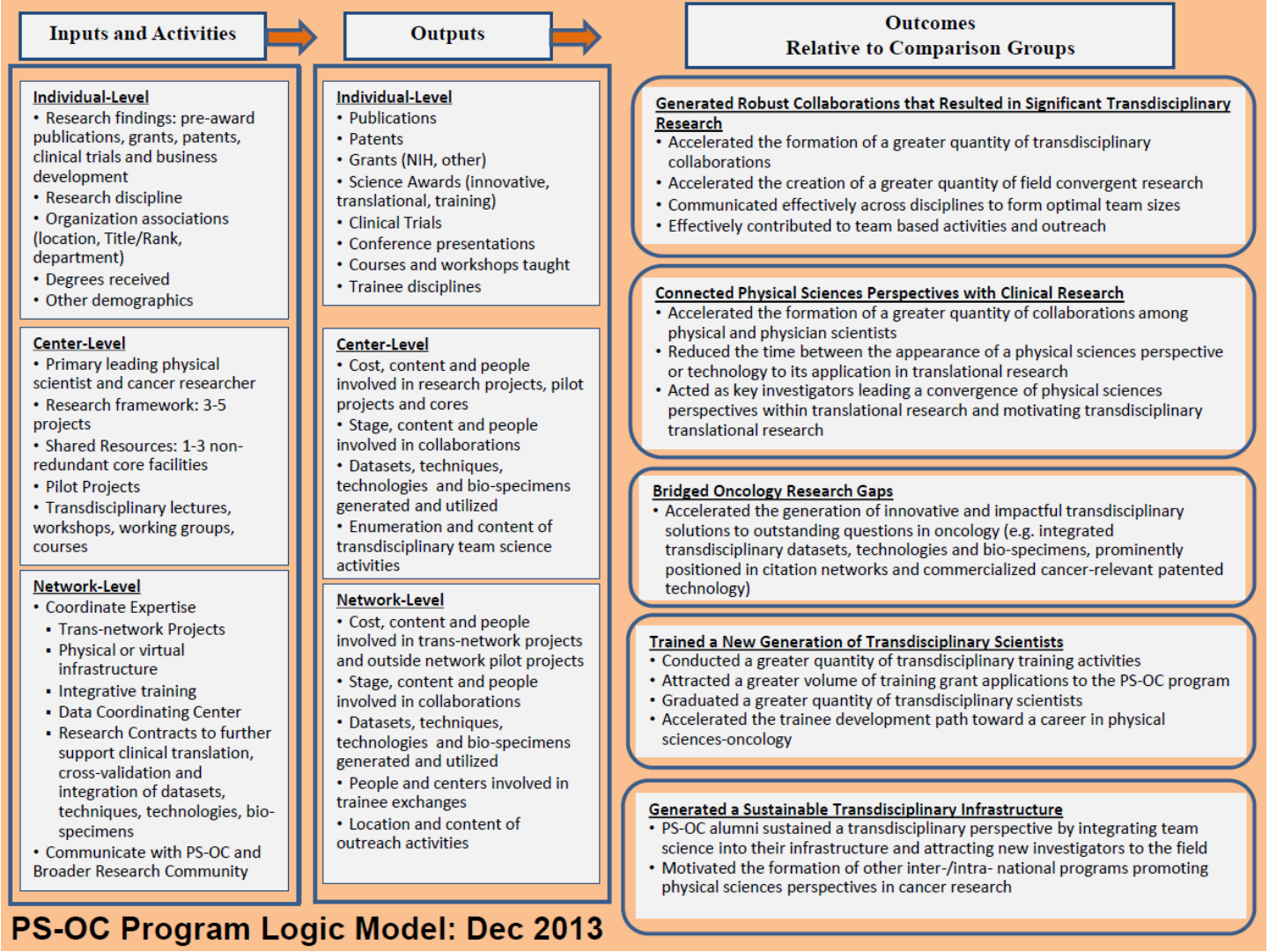
Program-level Logic Model Examples

Updated Logic Model for NSF EFRI Program



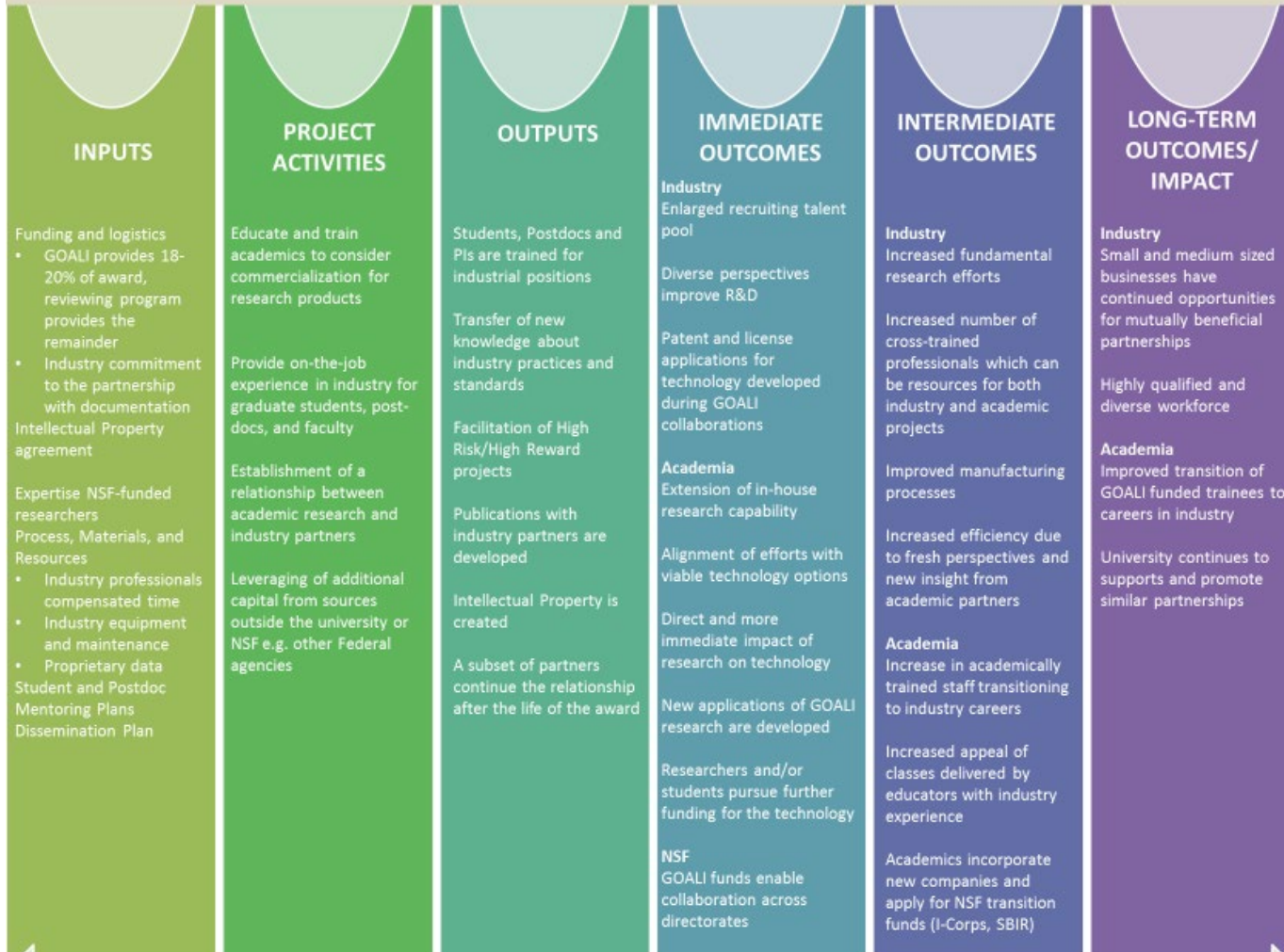
BIC LONG-TERM LOGIC MODEL





PS-OC Program Logic Model: Dec 2013

GOALI LONG-TERM LOGIC MODEL



Goals Characterized by Measurable Outputs & Outcomes

Goals	Outputs & Outcomes	Metric
Breakthrough Technologies	New products	#/5 years/#university partners
	New methods	
	New processes	
	Papers	# of journal publications/5 years/# partners
Stakeholder Satisfaction	IAB member satisfaction	% of membership renewals averaged over a 4-year period
	Leveraged funding	\$ other new sources : \$ NSF/5 years
	Researcher satisfaction	Likert scale satisfaction
Student Outreach	Graduate research grants	# of grants for theses and dissertations
	Student participation	# of student members/5 years
Student Development	Student projects	# of student publications/presentations/5 years
	Mentorships	Median ratio researcher : graduates/5 years
Technology Commercialization	# Degrees	# (BS + MS + PhD)/5 years
	Licensing	# of new licenses/5 years
	Students hired by IAB member	% of participating graduates hired by IAB member firms averaged/5 years
	Consulting	# of consulting contracts for researchers to IAB member companies/5 years
Knowledge Transfer	Website	Quality of information dissemination on website
	Prof org memberships	# of professional memberships held by IAB members/5 years
	Papers	# of co-publications (researcher and industry member)/5 years
	Conference presentations	# of conference presentations/5 years
	Workshops	# of seminars and workshops held

Gibson, E. and Daim, T. (2016). A measurement system for science and engineering research center performance evaluation. *Engineering and Technology Management. 2016 Proceedings of PICMET '16: Technology Management for Social Innovation.*

Logic Model Practicum

Break out Session

Research Strand

Do

Get

Inputs

Activities

Outputs

ST Outcomes

LT Outcomes



Workforce Development Strand

Do

Get

Inputs

Activities

Outputs

ST Outcomes

LT Outcomes



Innovation Ecosystem Strand

Do

Get

Inputs

Activities

Outputs

ST Outcomes

LT Outcomes



Culture of Inclusion Strand

Do

Get

Inputs

Activities

Outputs

ST Outcomes

LT Outcomes



Infrastructure & Management Strand

DO

Get

Inputs

Activities

Outputs

ST Outcomes

LT Outcomes



Proposal → Logic Model → Strategic Plan Feedback Loop

1. For each foundational component and strategy, complete the activities column.
2. List the expected results (goals) and show interrelationships if needed.
3. Fill in the gaps (inputs, outputs, short- and intermediate term outcomes) to show the links between your “do” and “get.”
4. Check to assure the links from left to right are in a logical, feasible, sequence.
5. Ensure that the model represents the project (w/o unnecessary detail).
6. Revise and update the model periodically to reflect changes in the project.

Questions to Guide Review of the Logic Model & Strategic Plan

1. Are the major inputs, activities, and outputs consistent and sufficient to achieve desired outcomes?
2. Are the strategic goals outcome oriented?
3. Are there missing strategic goals?
4. How do colleagues not familiar with your project, interpret your model?

Resources

- <https://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>
- <https://fyi.uwex.edu/programdevelopment/logic-models/>
- <http://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and-development/logic-model-development/main>
- http://www.pointk.org/client_docs/File/logic_model_workbook.pdf
- http://www.sagepub.com/sites/default/files/upm-binaries/23938_Chapter_3_Creating_Program_Logic_Models.pdf

“Cheshire Puss,” she began, rather timidly, as she did not at all know whether it would like the name: however, it only grinned a little wider.

“Come, it's pleased so far,' thought Alice, and she went on. `Would you tell me, please, which way I ought to go from here?”

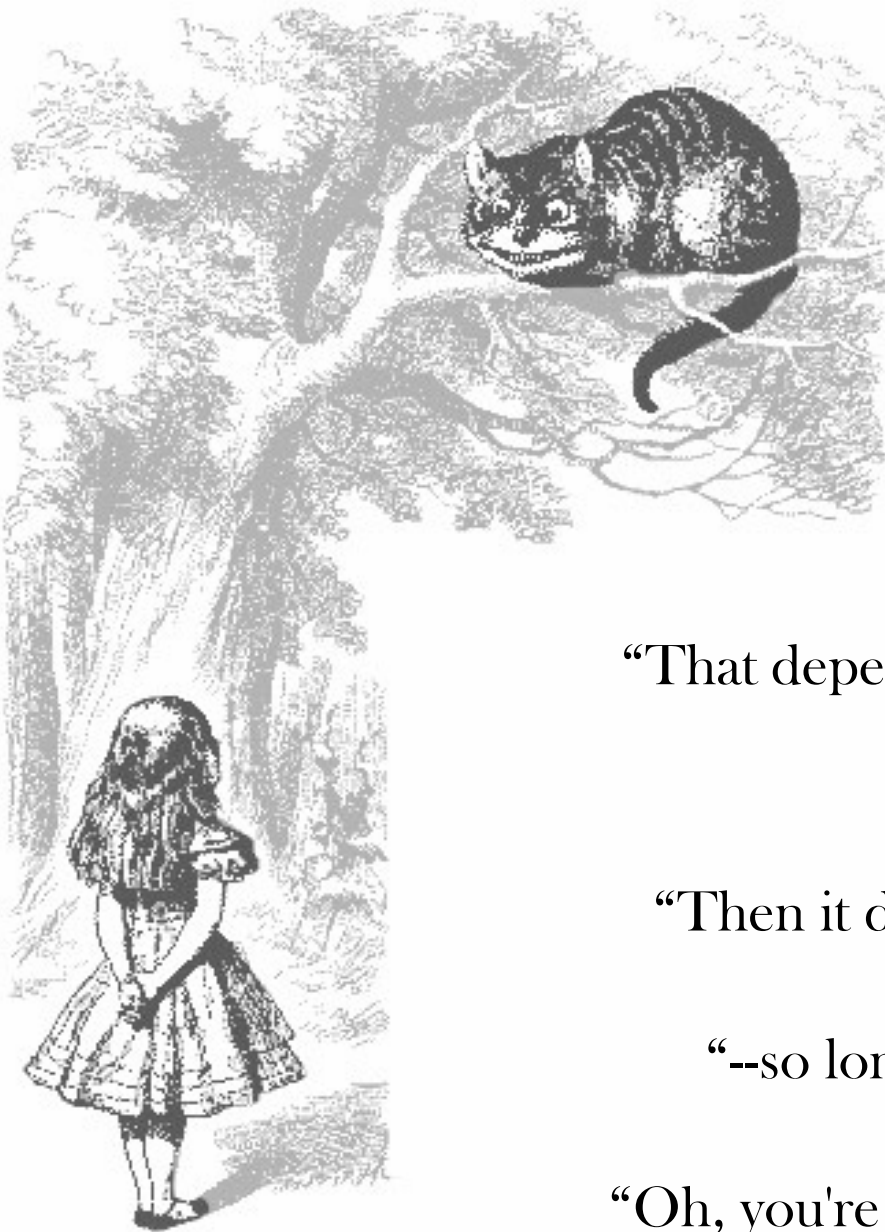
“That depends a good deal on where you want to get to,” said the Cat.

“I don't much care where—” said Alice.

“Then it doesn't matter which way you go,” said the Cat.

“--so long as I get *somewhere*,” Alice added as an explanation.

“Oh, you're sure to do that,' said the Cat, `if you only walk long enough”



Thank you!

Cynthia C. Phillips, PhD
Evaluator, OD/OIA/EAC
cphillip@nsf.gov