

Effective Method to Evaluate the Impact of Projects; A New Approach Using the Logic Model to Ascertain the Paths Between R&D Output and Objectives

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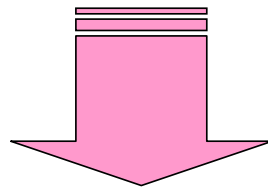
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Opinions expressed here are solely those of the authors.

- 1 . **Objective**
- 2 . **Current METI R&D Evaluation Process**
- 3 . **Scenario Writing Using the Logic Model**
- 4 . **Conclusion**

Objective : To develop a tool that assists in the *evaluation of Impact* upon a project



Tool :

Scenario writing using the Logic Model

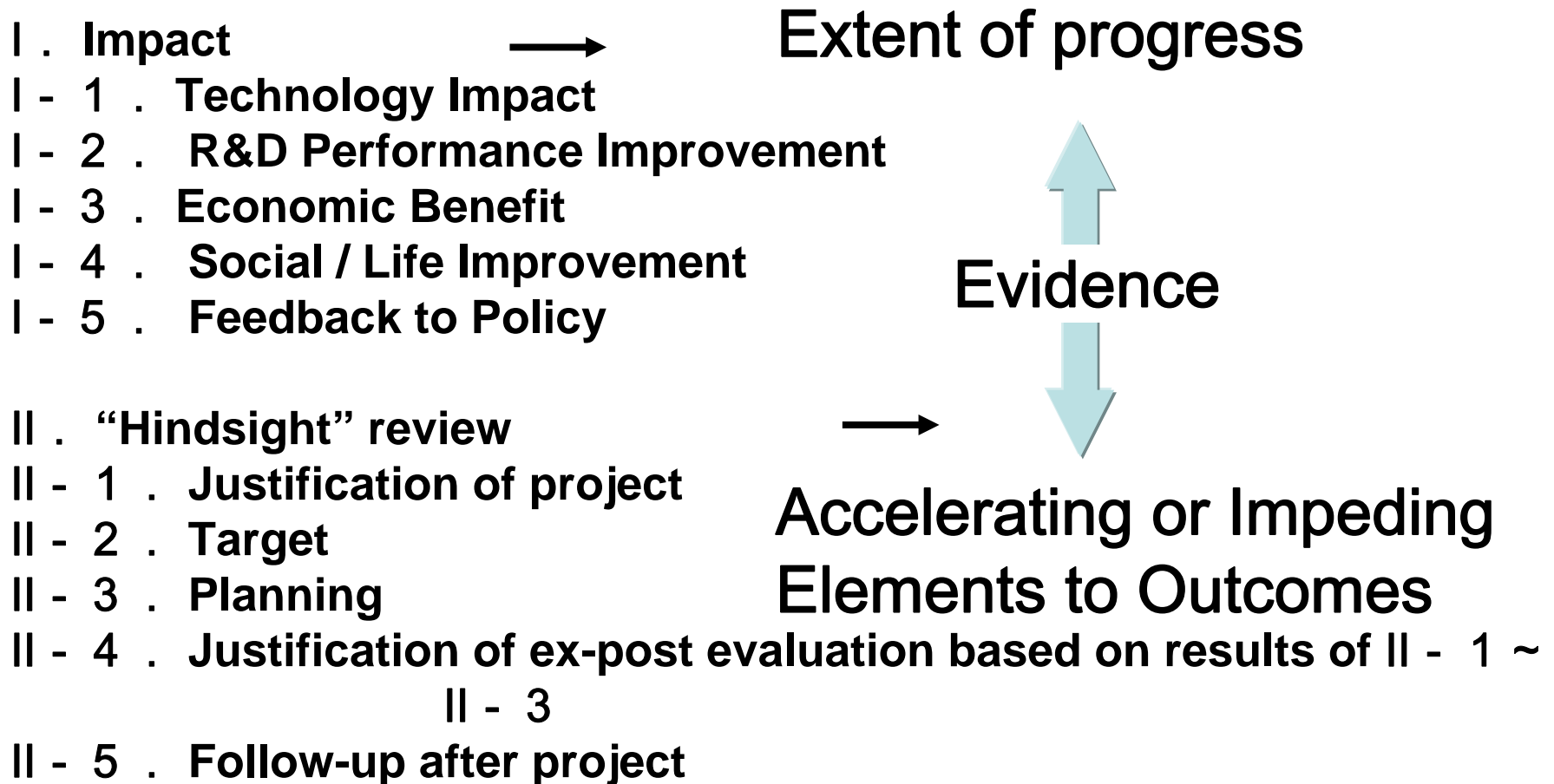
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Current METI R&D Evaluation Process

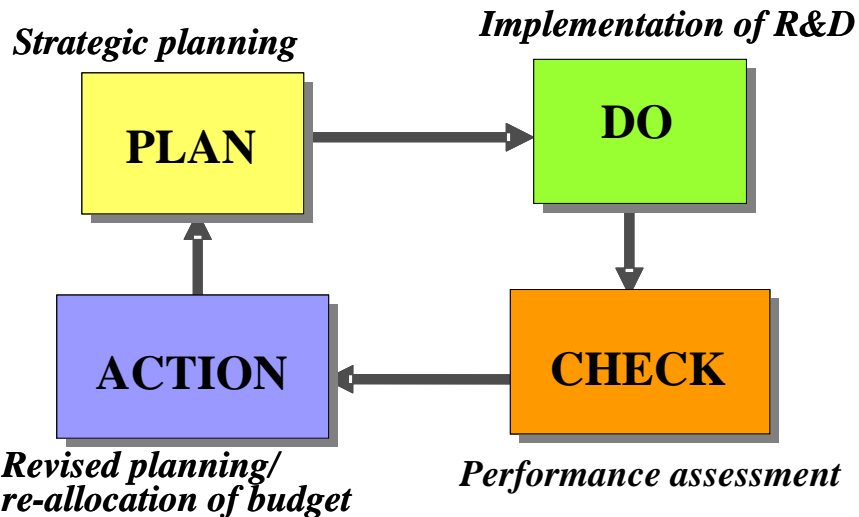


	Prior Assessment		Interim Assessment		Ex-post Assessment		Follow-up Assessment	
	Ex-ante	Monitoring	Interim	Monitoring	Ex-post	Follow-up		
	Self		External		External	External	WG	Panel meeting
			Sub-committee	Panel meeting	Sub-committee	Panel meeting		
Interview of key stakeholders	●	●		●				
Logic Model	○		○		○		○	
Indicator	●	●	●	●	●		●	
Score			●		●			
Peer Review			●		●		●	
Expert Review				●		●		●
Quantitative (Bibliometrics)			○		○		●	
Interview/Questionnaire			○		●		●	

Project Evaluation Items for Follow-up Evaluation



Evaluation Policy



Ex-ante Evaluation

Interim Evaluation

Ex-post Evaluation

← **Follow-up Evaluation**

The *Follow-up Evaluation* is the key evaluation for formulating subsequent policies and measures

→ **Establishment of Follow-up Evaluation**

- 1 . Objectives
- 2 . Current METI R&D Evaluation
- 3 . Scenario Writing Using the Logic Model
- 4 . Conclusion

Ministerial evaluation

→ *Practical evaluation on specific issue*

Constraints:

Conventional budgeting

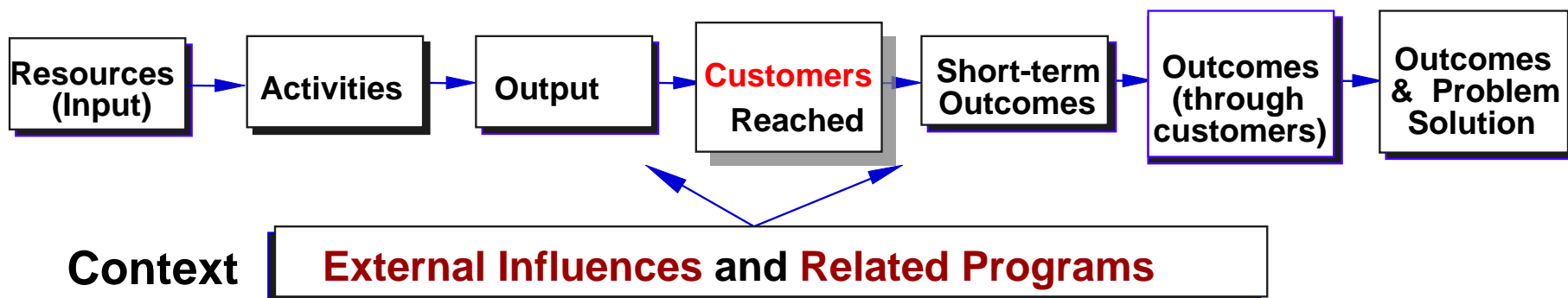
Person in Ministry of Finance vs. Person in ministry on specific issue

Limit of human resources

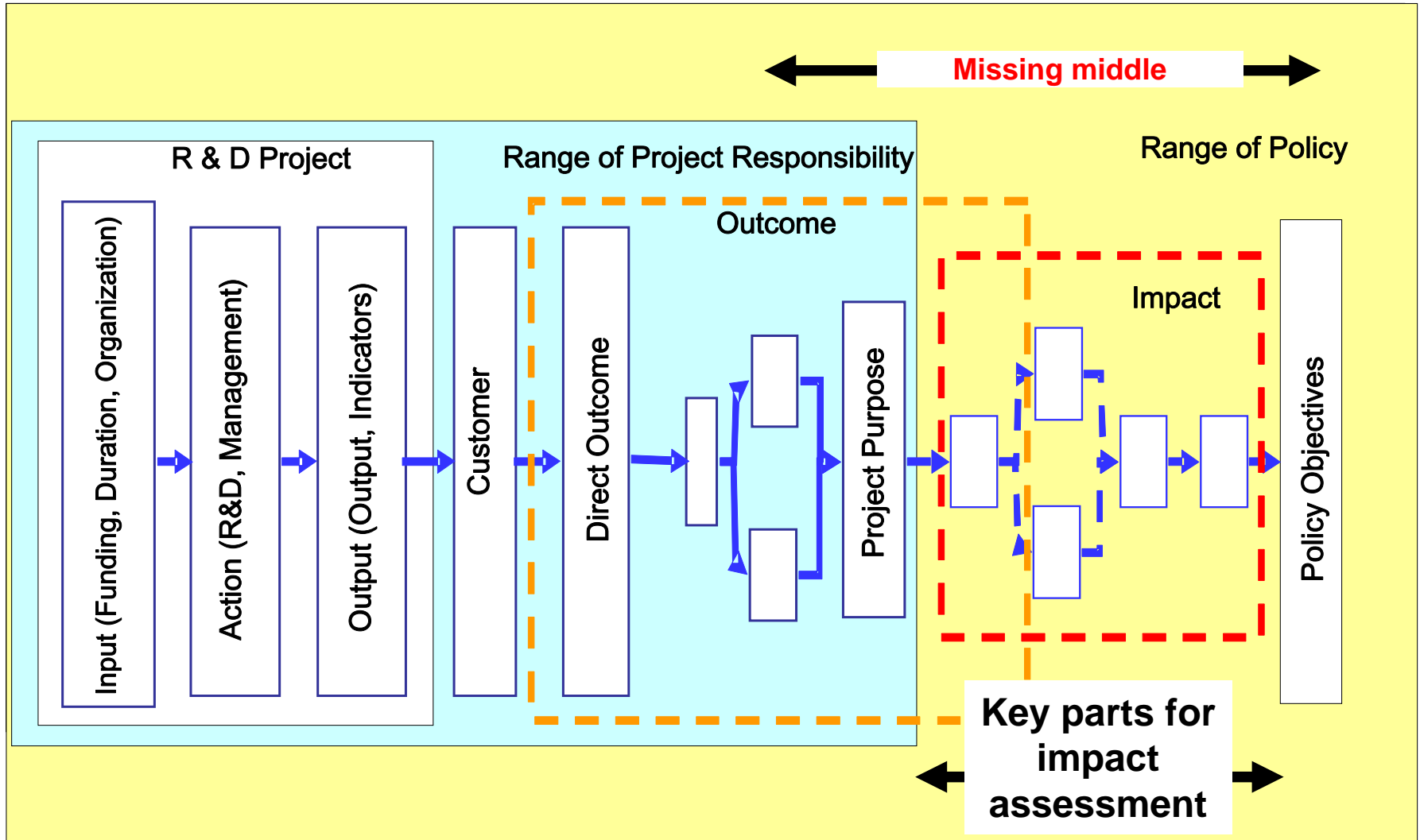
2 year rotation

Features of the Logic Model

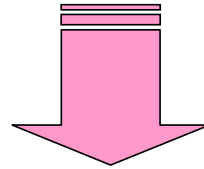
- The model affords a view of the entire process, allowing the stages to follow an organized flow from the “Input” stage through to the expected goal
- The model allows examination of the entire process, by both rational and logical views
- The model offers a platform starting from the Input stage through to the expected goal; wherein, the R&D, promotion, and evaluation related members, as well as the customers, can provide input
- In terms of planning, the concept can be passed on to the next generation
- The model is designed to capture the progress and changes within the entire process
- Ripple effects can be easily observed



Evaluation Range of a METI R&D Project



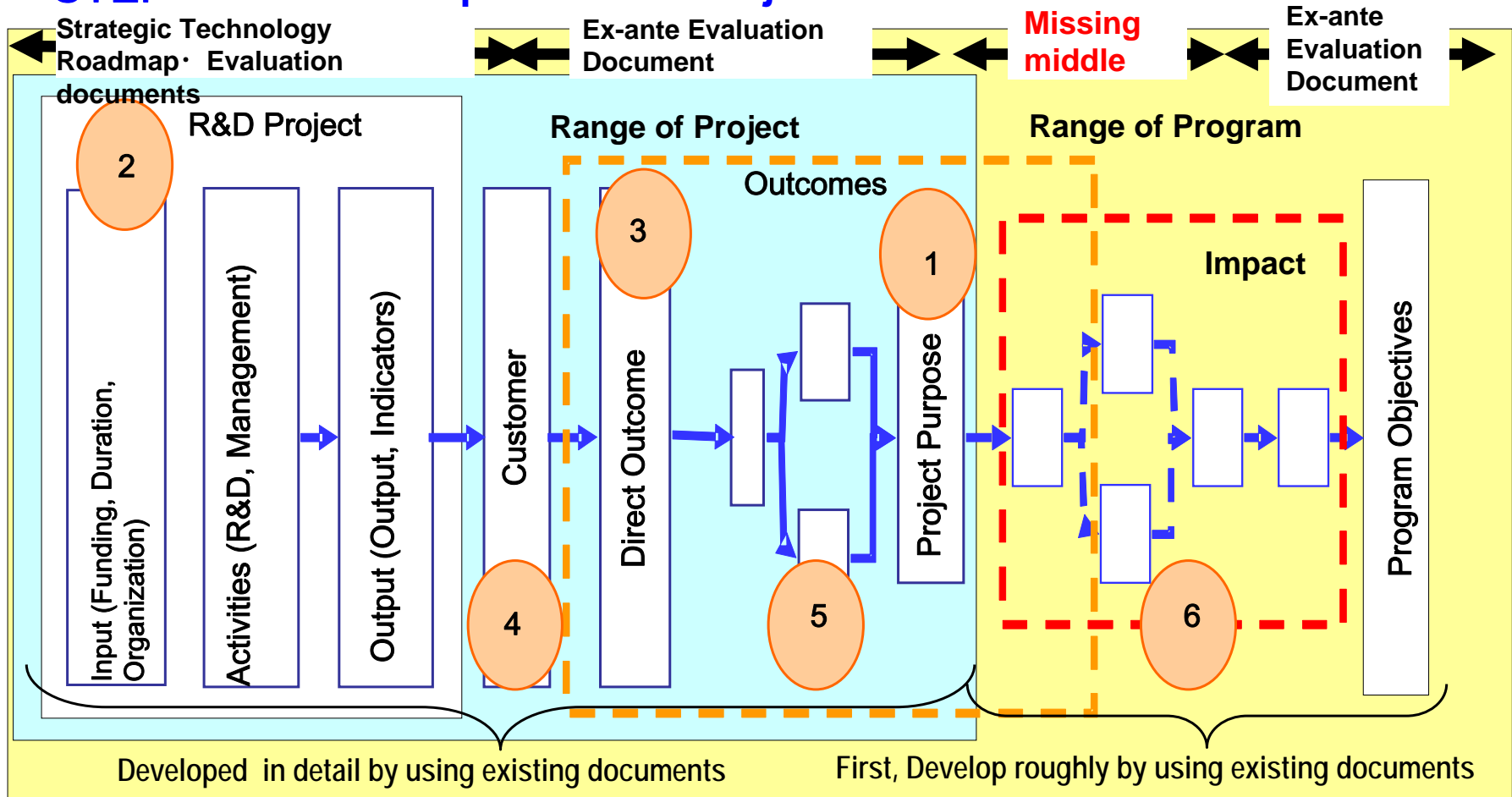
Logical Thinking



**Develop a Logic Model using a
Backcasting Approach**

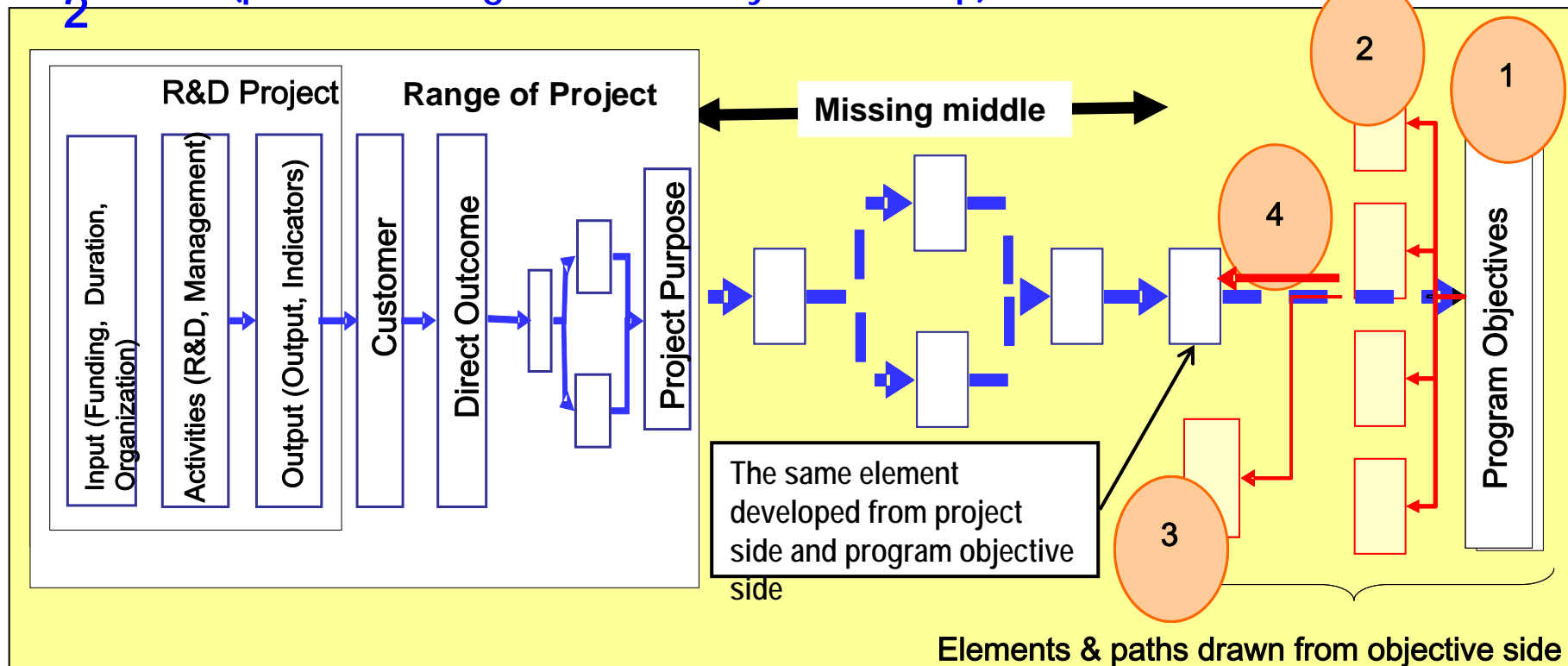
**Develop Textbook for beginners
of evaluation at METI**

STEP Model Development from Project View



- ① Create a clear project purpose using prior evaluation documents
- ② Enter R&D project's Input, activities and Output
- ③ Enter direct outcome attributes to each project output
- ④ Enter customer generated direct outcome
- ⑤ Draw rough outcome and linkage paths from the project's direct outcome to the project purpose
- ⑥ Develop rough paths from projects purpose to program objective covering the projects

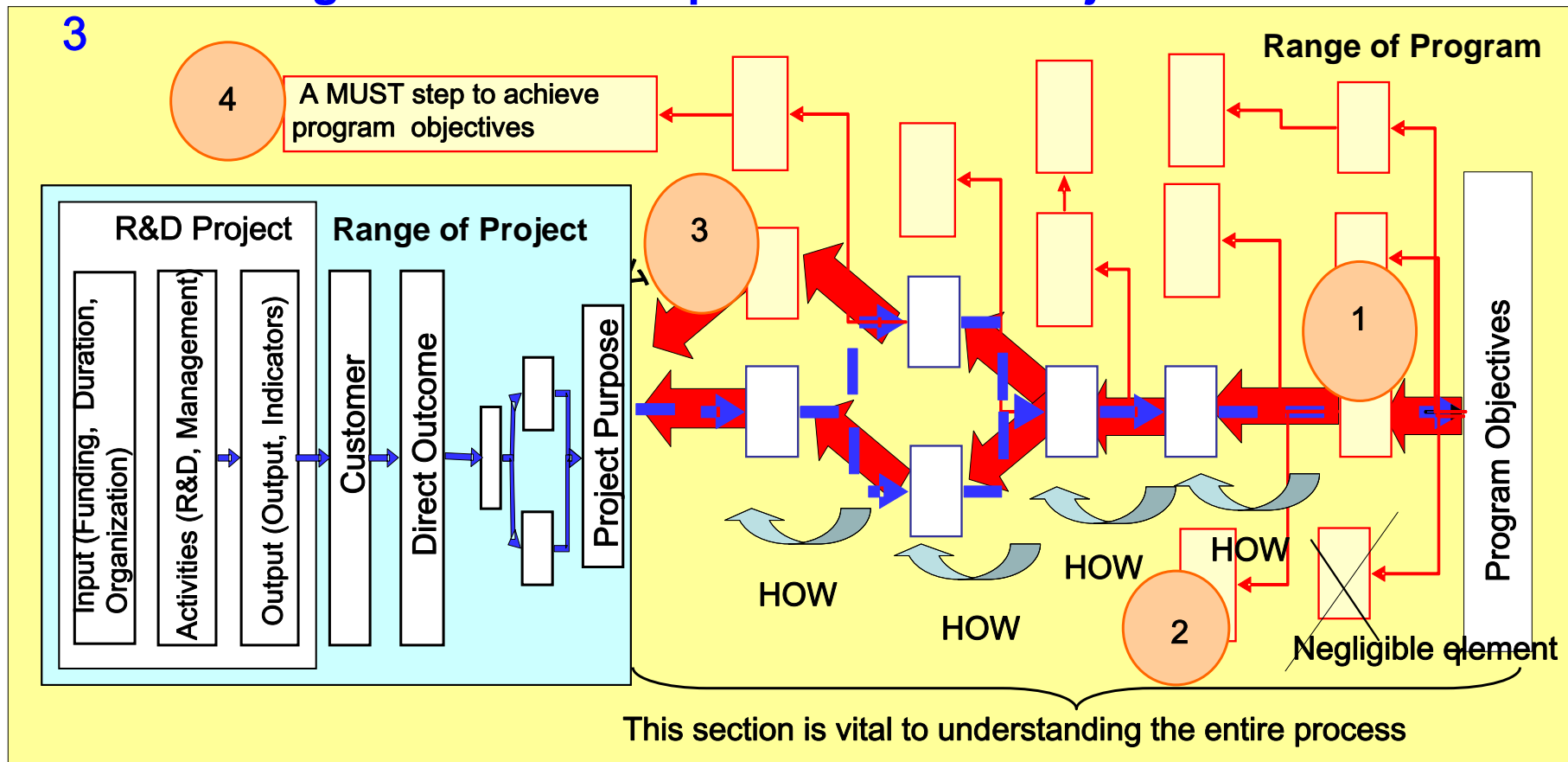
STEP 2 Linking Project Purpose with Program Objectives (precise linking not necessary at this step)



- ① Create clear program objectives using existing documents
- ② Find elements necessary to achieve program objectives in the ex-ante evaluation documents, etc.
- ③ Discriminate the finding elements generated by the project from elements that were generated by other projects
- ④ Draw rough outcomes and linkage paths from project's direct outcomes to project purpose

STEP Logic Model Development from an Objective View

3

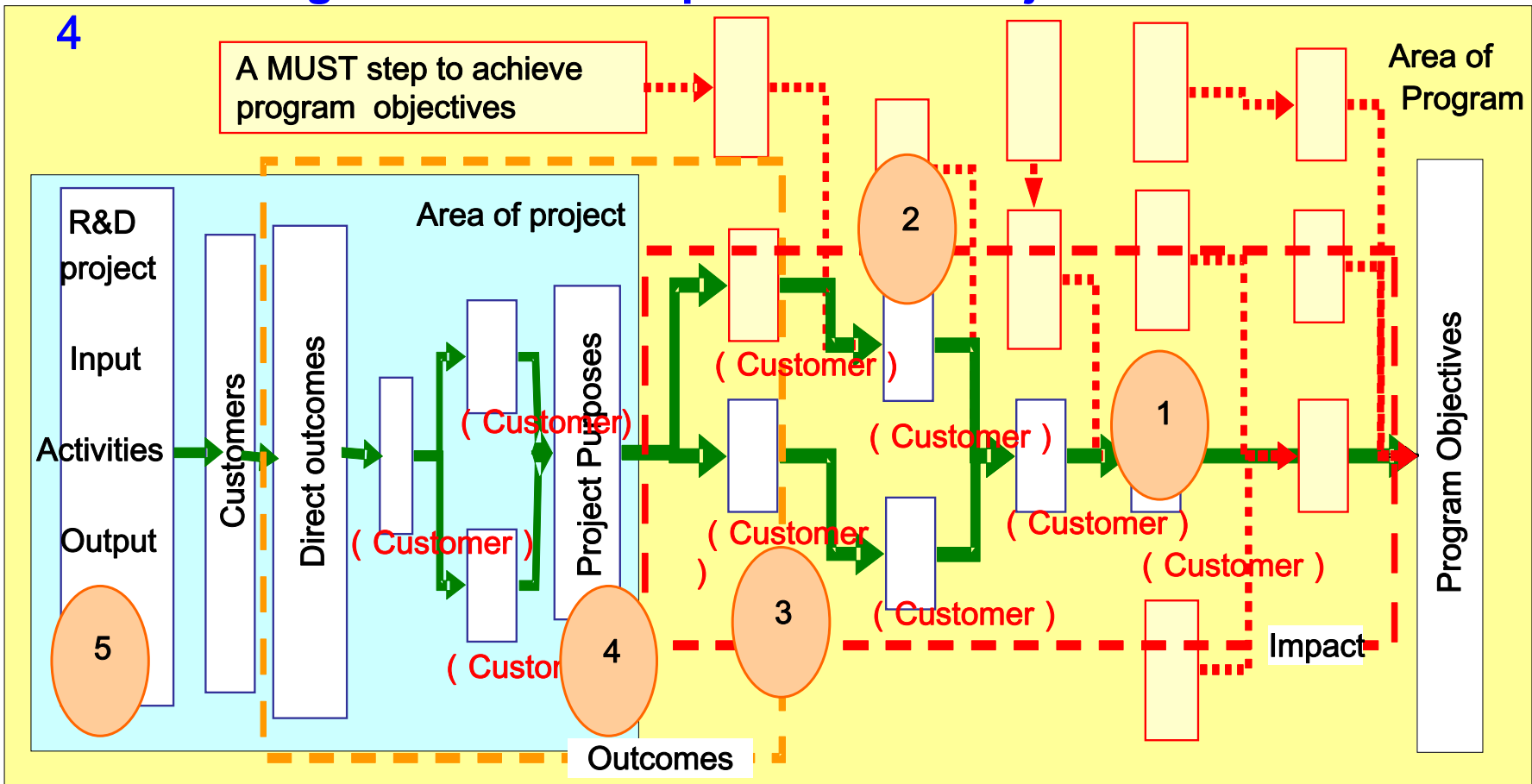


- ① Again, check the program objective side & find elements necessary to achieve the objectives in the program ("How" questions are effective for this purpose)
- ② Find elements from the paths which connect project's purpose with program objective
- ③ Develop effective elements and paths which connect project's purpose with program objective
- ④ Sometimes you can find missing must-do projects to achieve program objectives

Procedure for Developing the Logic Model

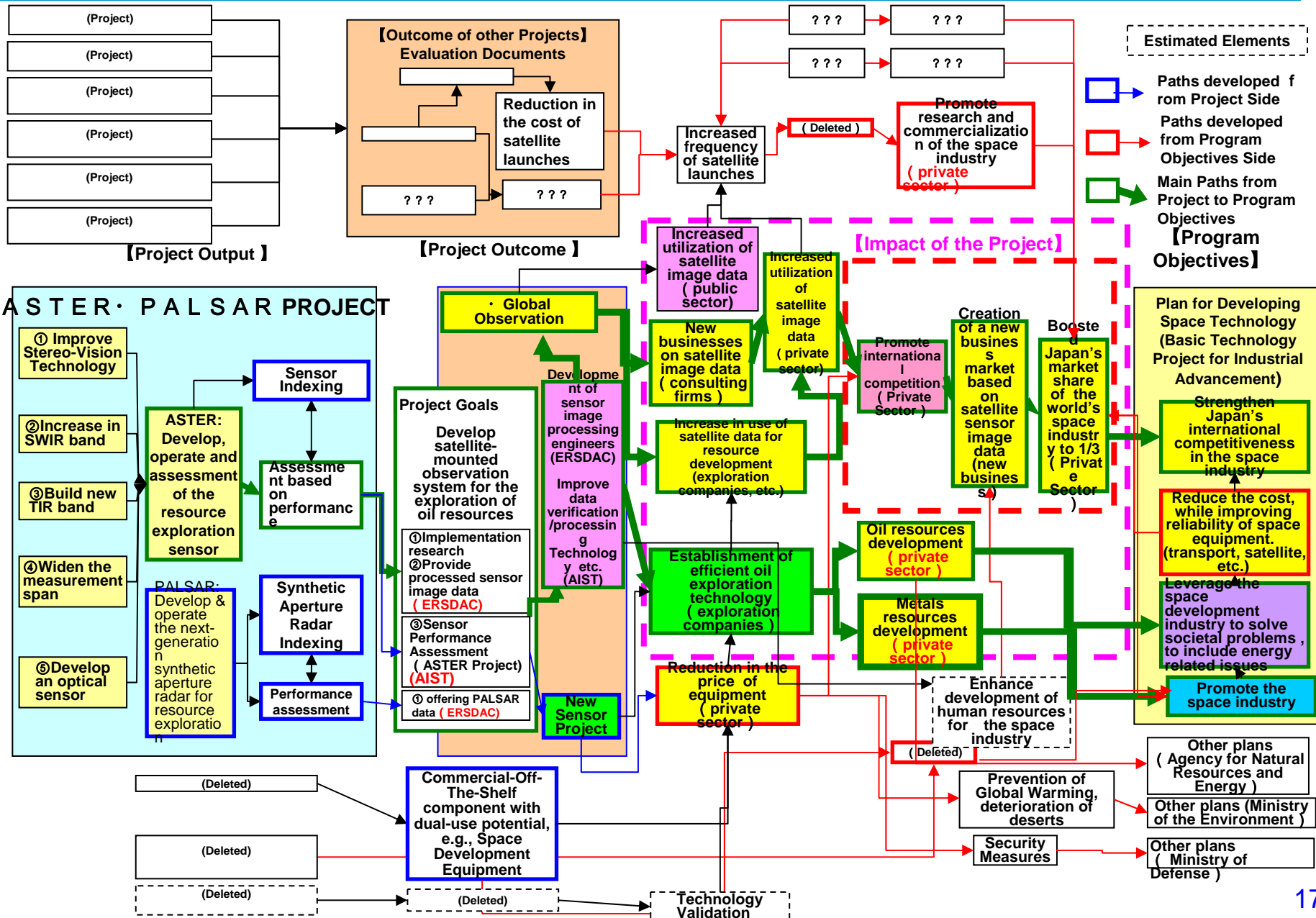
STEP Logic Model Development from Project View

4

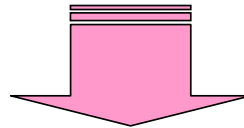
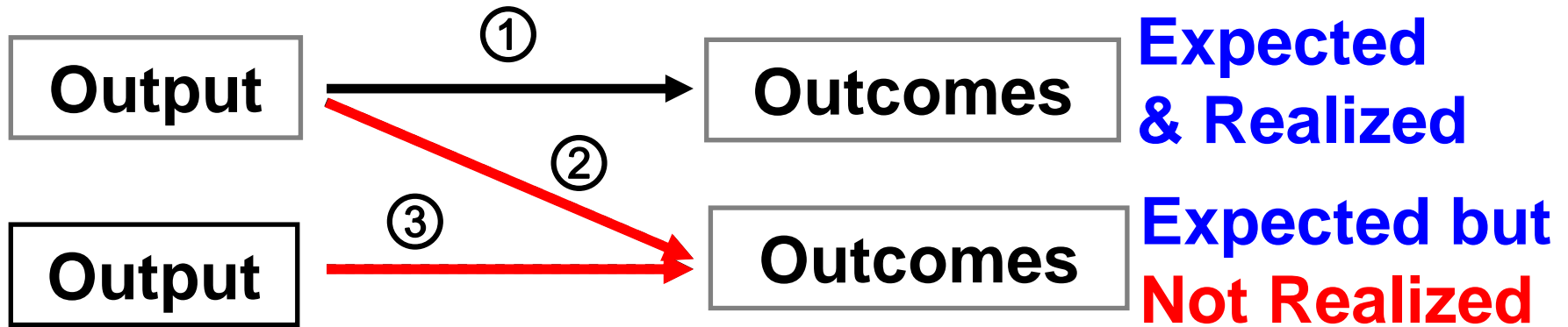


- ① Discuss with stakeholders to verify and modify the logic model developed
- ② Delete the elements and paths which are not necessary to achieve program missions
- ③ Verify the modified logic model with stakeholders and make each element clear to the customers
- ④ Make the role of project output clear in the program and confirm they are adequately delivered to the customers
- ⑤ Check appropriateness of project's output targets to achieve program objectives

Developed logic model; ASTER PALSAR Project



The Next Step



Collect evidence to clarify implicit elements & linkages

- **Impact resides in the missing parts of R&D**
- **The Logic Model reveals those missing parts**
- **Backcasting assists in scenario writing**

Thank you for your attention