Early Warning Signs on Projects

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IISE - Industry Advisory Board (IAB)
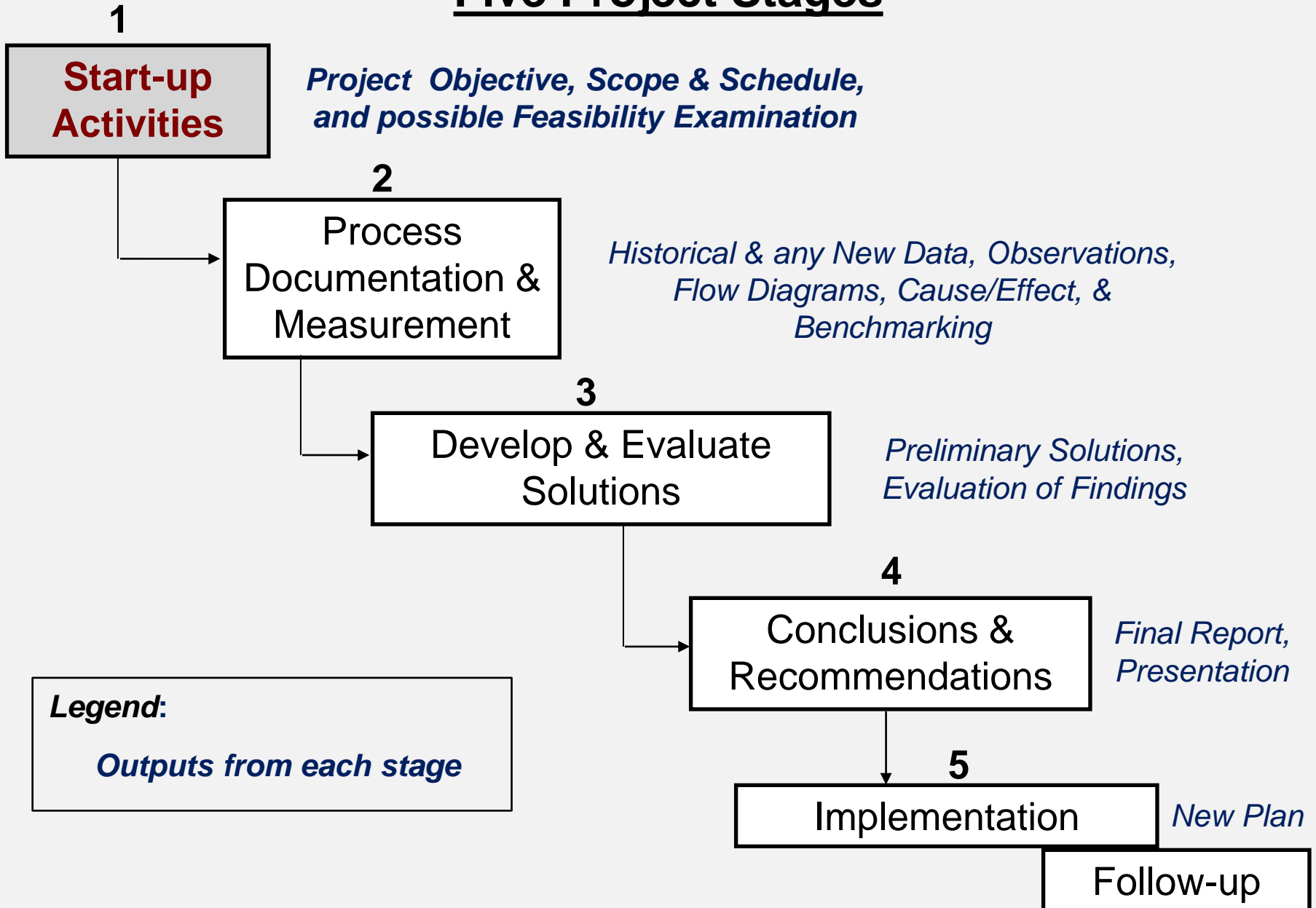IISE Fellow
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Five Project Stages

1

Start-up Activities

Project Objective, Scope & Schedule, and possible Feasibility Examination

2

Process Documentation & Measurement

Historical & any New Data, Observations, Flow Diagrams, Cause/Effect, & Benchmarking

3

Develop & Evaluate Solutions

Preliminary Solutions, Evaluation of Findings

4

Conclusions & Recommendations

Final Report, Presentation

5

Implementation

New Plan

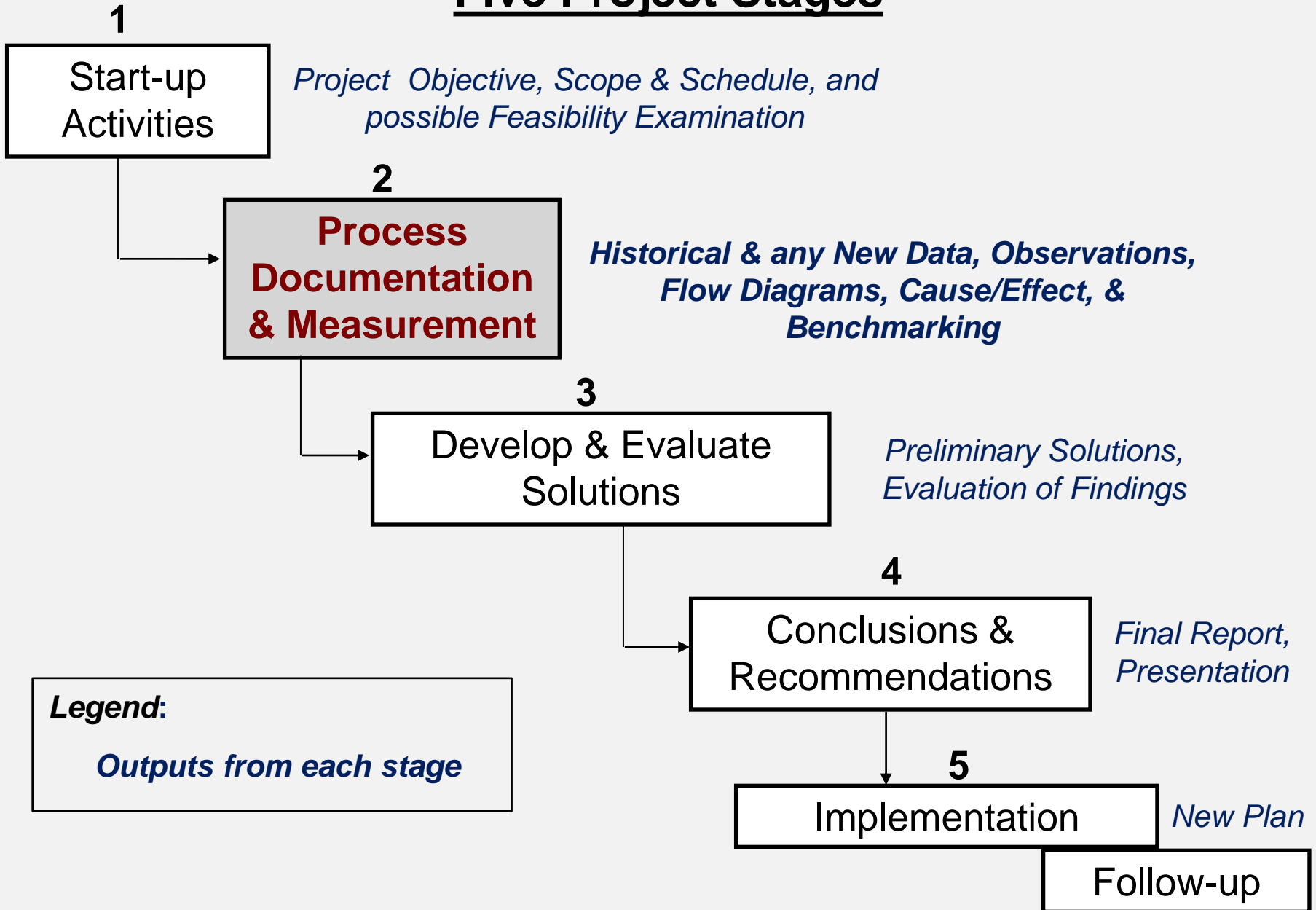Follow-up

Legend:

Outputs from each stage

Early Warning Signs \ Corrective Actions

Stage 1 - Startup Activities

- **Objective is not clear.** \ Stop and write down a clear, concise Objective in a few sentences, and review it with the project's customer.

- **Customer is not "onboard" yet.** \ Set up a discussion meeting with the project customer before continuing.

- **Schedule is too tight.** \ Reduce Scope, or look for more Resources, or doing the project work in Phases (if OK with customer).

- **Started work without a Plan or Schedule and now causing some confusion.** \ Limit the initial work until an overall Project Plan is developed. Make a Project Schedule as soon as possible, and continue to update it throughout the entire project.

- **Project is very large and may be beyond the capability of the current Team.** \ Develop a Project Plan and discuss initial concerns with customer; may need to limit project Scope, or form a larger Team, or break project into Phases, in order to accomplish the bigger project.
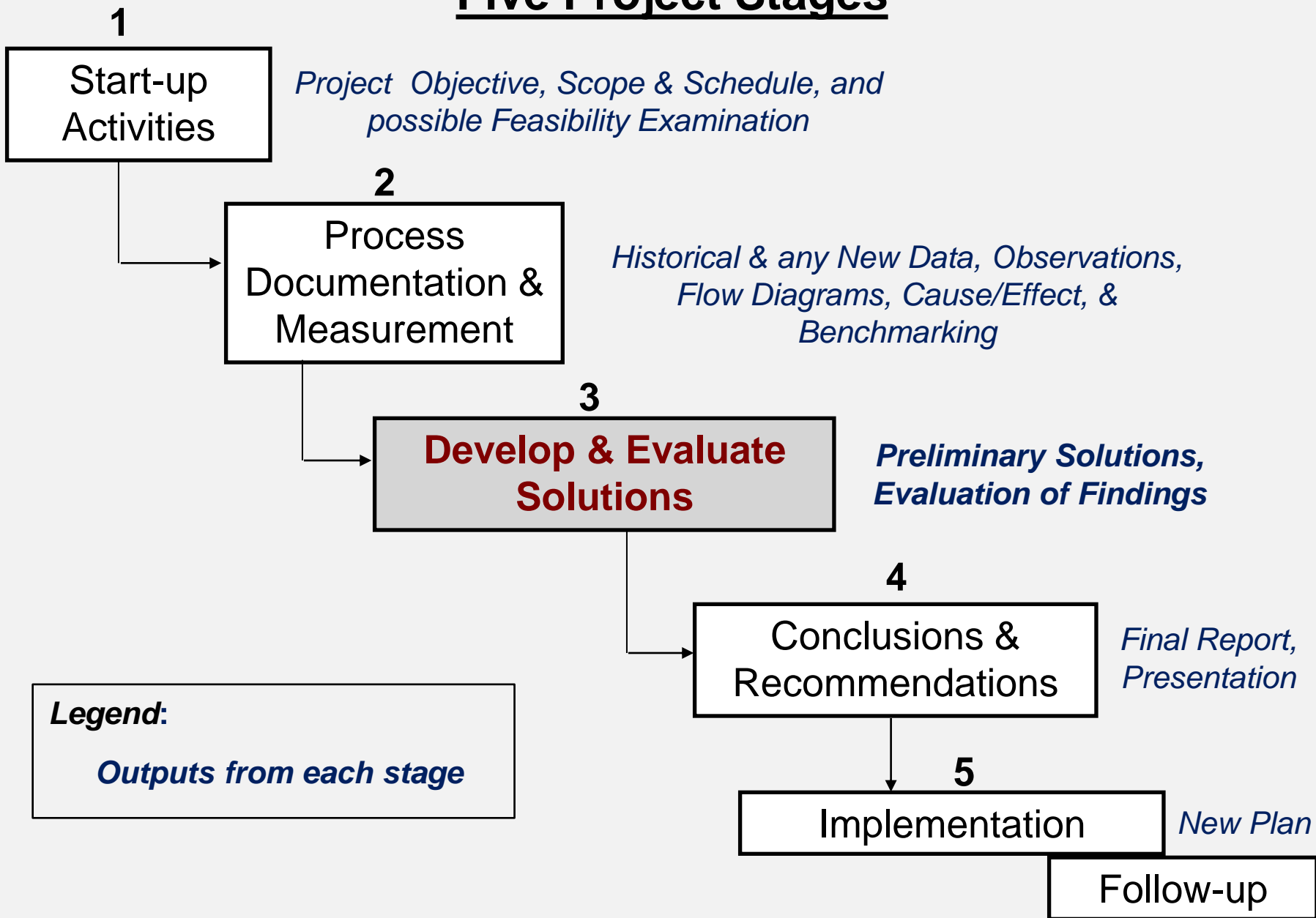
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Stage 2 - Process Documentation & Measurement

- **Having difficulty getting access to the people that own the area under investigation. ** Discuss access with project customer, may need them to assign a focal to the project or introduce the Team to some of their people (explaining the assignment given to the Team).

- **Hard to view the entire process at once, due to multi-shift operation, etc. ** Break the process up into viewable sections, but make sure all portions are covered.

- **Current available data is not conclusive or not specific enough. ** Determine what new data is required and set up a data collection plan.

- **New data being collected is not helping the project. ** Review the original Objective & planned Deliverables, and see what data needs to be collected to support the project; may have started data collection before identifying project's data needs.
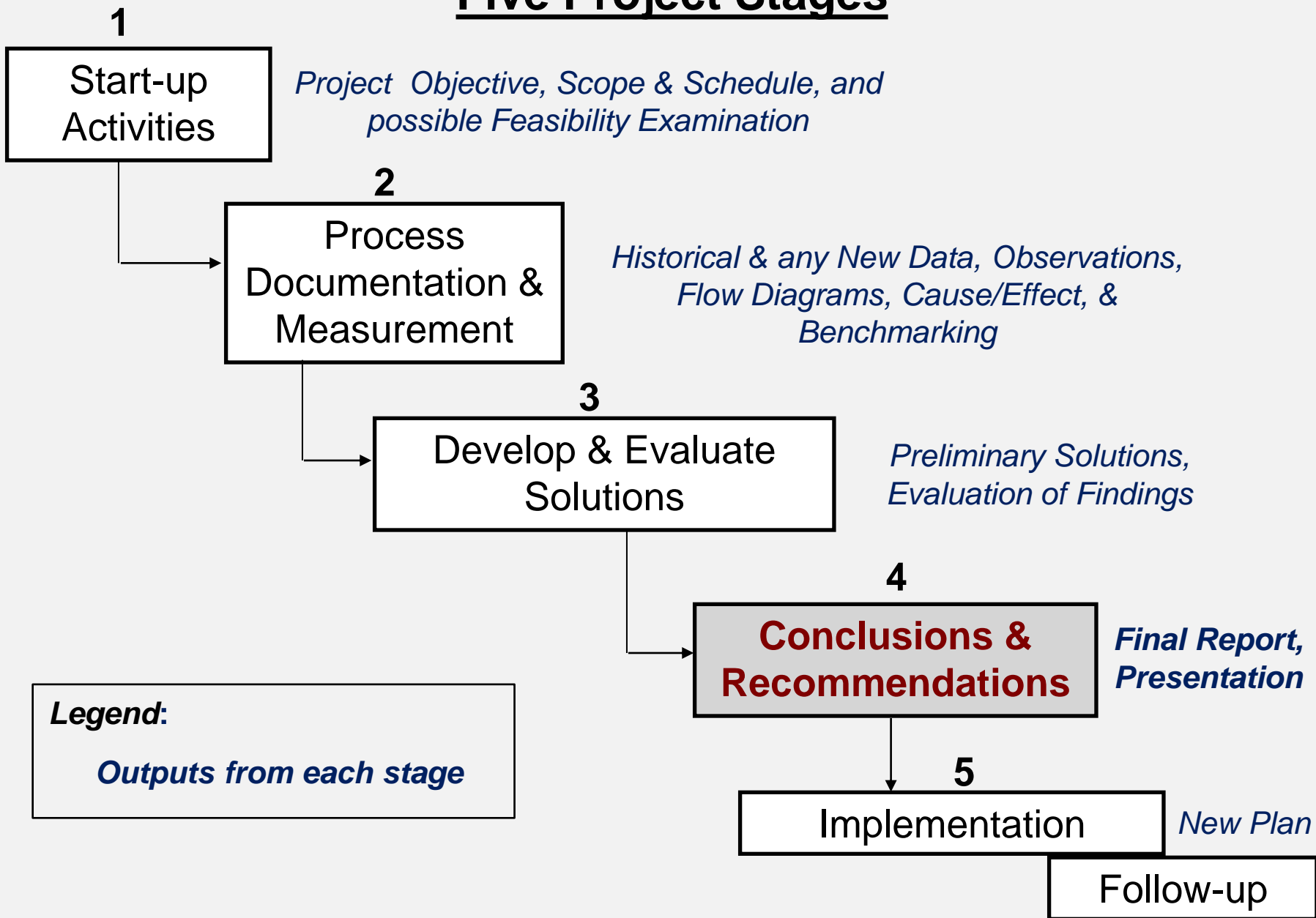
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Stage 3 - Develop & Evaluate Solutions

- **Having difficulty coming up with any viable Solutions.** \ May need to review the results from earlier stages and look for partial Solutions; may also need to do some benchmarking of other similar operations to see some possible Solutions already being used elsewhere.

- **All Solutions look good, not sure how to compare them or choose one.** \ Discuss the Solutions with your project customer (or their assigned focal) to see which of the Solutions might work best for them; may also need to have a ranked criteria for evaluating, or even some limited testing to pick the best Solution for this application.

- **Want to do some limited testing, but not sure how to proceed.** \ Discuss the Solutions you want to test, with the project customer, and get their help with setting up a simple, but fair, test of the Solutions.
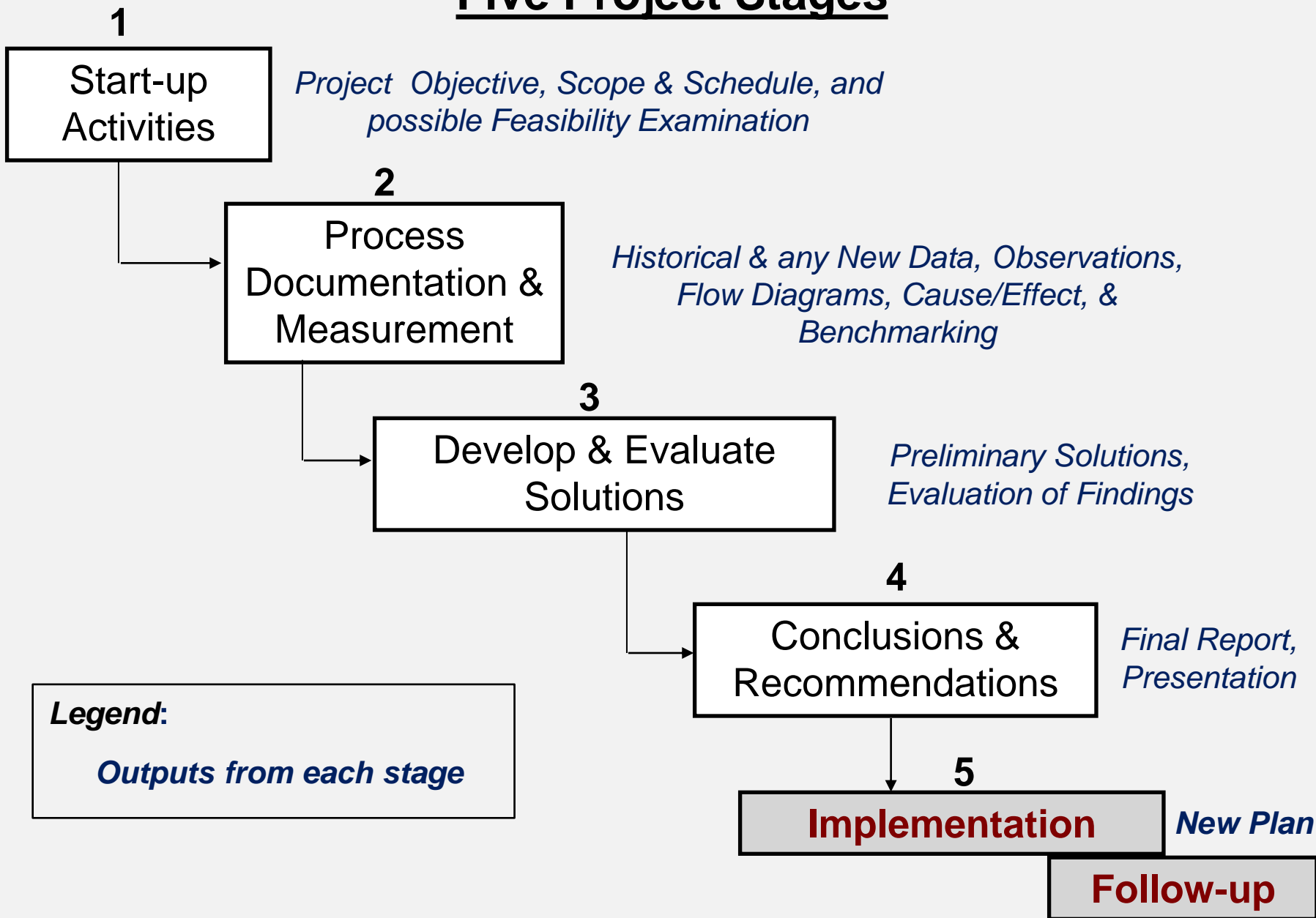
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Stage 4 - Conclusions & Recommendations

- **Have lots of hand-written notes and data, but difficult to come up with any Conclusions or Recommendations.** \ Need to go back as a Team and type up all Findings and see what the data says; may need to have a Team "white board" discussion session to draw out the Team's knowledge - and if necessary - to keep doing benchmarking or other Solution generating activities.

- **Have a lot of Findings & Conclusions, but not many Recommendations.** \ May need to organize the Findings & Conclusions into a preliminary presentation and discuss with the project customer; this may generate some Recommendations, or the need to continue developing more viable Solutions.

- **Final Presentation or Final Report is too long, and not easy to follow.** \ Develop a good working outline, before starting to write the Final Report, or build the Final Presentation. Practice and get some feedback on the presentation to make sure the Objective and all Deliverables are met.

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Stage 5 - Implementation or Follow-up

- **Not sure if any Implementation would happen, so no Implementation Plan was prepared.** \ Discuss need for developing an Implementation Plan later, with project customer (based on whether initial Recommendations are accepted).

- **Trying to use the Final Presentation or Final Report as an Implementation Plan, and running into trouble.** \ May need to stop and develop a detailed Implementation Plan and review this with the original project customer – based on the Findings, Conclusions & Recommendations of the earlier project. May also have to discuss the earlier Presentation/Report with the original authors (for clarification).

- **Not sure if any Follow-up is required, after the Final Presentation has been given.** \ Discuss this with the original project customer - or if possible, check the area for any problems they may be experiencing with the original Recommendations.

Summary

- ✓ Be aware of the Early Warning Signs at each Stage of an Industrial Engineering Project.

- ✓ Take the appropriate Corrective Action for each Early Warning Sign.

- ✓ Monitor the Outputs for each Stage of a Project.

- ✓ Utilize good Project Management techniques throughout the Project.