Has your project suffered negative impacts from hidden dependencies?

Do you know all of your project’s stakeholders?

Do you and your stakeholders share a common understanding of your interdependencies?

Is your project prepared for change?

Managers of technology-intensive projects know that things beyond their direct control can pose significant risks to their performance.

Today’s net-centric world doesn’t seem to offer them much support. The trend is toward collaborative systems of systems with combined or threaded capabilities that generate many external dependencies. This world of net-centric applications calls for a management perspective that seeks governance across sovereign boundaries.

**The Need to Make Sound Decisions about Cross-Boundary Governance**

Before attempting to govern activities that are beyond their direct control, project managers need to proactively identify them. They need to characterize relevant external dependencies, revealing priorities and risks that are of mutual or common concern—issues that cross sovereign boundaries.

Several questions might arise in the process of identifying cross-boundary activities, notably:

- With which other systems or organizations must your system collaborate?
- Who controls those collaborators? Are they motivated to collaborate with you?
- Can you define the external dependencies clearly? Do the authoritative parties agree with your definitions?
- What assumptions exist about the performance of others? What assumptions exist about your performance?
- Are agreements in place for each external dependency? Once agreements are in place, what is the procedure for change management? How are agreements communicated and how are their impacts mitigated?

**DPGA—A Contextual, Hands-on Approach**

The Carnegie Mellon® Software Engineering Institute (SEI) Distributed Project Governance Assessment (DPGA) instrument helps organizations understand the number and characteristics of external dependencies.

The DPGA tool reveals details embedded in an organization’s typical work flows—such as the dependencies, their controlling stakeholders, and the important quality attributes associated with the performance of those dependencies.
Using a scenario-based analysis approach, the DPGA instrument helps your organization answer these seven key questions:

1. What is your tactical scope of interest?
2. What external dependencies are critical to your project performance?
3. Who has the authority to make commitments to mitigate your external dependency risks?
4. What quality attributes are important to characterize adequate performance against the dependencies?
5. What commitments must you make to others?
6. How do you maintain the resulting agreements?
7. What are the associated costs and risks to your project?

**DPGA Activities Guide You Toward Developing a Governance Plan**

DPGA consists of 5 major activities, each divided into several tasks.

1. **Establish Project Context**—develop understanding of the project goals and constraints. Identify known stakeholders and select a scope of analysis.
2. **Establish Common Vocabulary**—reach agreement on terms and initial granularity of activities to be examined.
3. **Develop Scenarios**—build activity-oriented scenarios describing interactions with external stakeholders.
4. **Codify relationships**—record initial understanding of roles and responsibilities for each identified external dependency. These relationships are then described in Task Level Agreements, the building blocks for contractual agreements between authoritative stakeholders.
5. **Develop a Governance Plan**—a process framework is developed to extend the initial findings into other phases or sectors (expansion of original narrow scope) of the project, communicate with all stakeholders, and establish appropriate monitoring, control, and change management mechanisms.

**Applying DPGA**

The SEI can apply DPGA for your project through

- **Workshops** to gather information about your external dependency context, stakeholder identification, and the required external activities—with the goal of producing a distributed governance plan
- **Use of scenario-based interviews** that guide the information gathering activities
- **Templates** for a responsibility matrix, Governance Task Level Agreements, and a framework for the Governance Plan

The time required for a DPGA depends on specific systems to be analyzed, quality of documentation, and the target system environment. A two-to-three day team engagement with appropriate preparation, post analysis, and report generation effort is typical.

**Related Websites**
www.sei.cmu.edu/isis/

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