



April 22, 2002

Borrow Best Practices From Internal Development Efforts to Help Estimate COTS Projects

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A client inquiry

Question

I've seen lots of research on the relative sizing of projects dealing with code development, but not much with respect to projects that deal with package selection and integration. Does Giga have an opinion or guidelines around this issue?

Answer

With commercial off-the-shelf (COTS) implementation quickly surpassing internal development as the primary project type for IT organizations, companies must now look beyond traditional methods to include COTS implementation. Planning COTS implementation projects requires project managers to look at different project stages and required milestones, translating into different resource requirements in skills and allocation. Estimation for these projects has definite differences from internally developed projects, but the two share enough commonalities that best practices from traditional development projects can be incorporated.

While overall project management practices don't dramatically change, the specific activities within each phase do change, affecting the entire schedule. Companies looking for silver bullets in estimating these types of projects will have no more luck than those performing only internal development. Current sizing practices are expanding to include COTS estimation, for example COCOTS is based on Boehm's COCOMO, but as with any sizing practice, adopting works best in more formal development environments. Most organizations continue to apply a combination of historical comparison and formal practice (see IdeaByte, [Use Various Estimating Methods to Develop a Flexible Process](#), Margo Visitacion). Although internal development projects place emphasis on different activities than COTS implementations, certain best practices still apply:

- Perform rigorous requirements management — Allocate at least 15 percent overall effort to requirements management recurring over the life of the project. Good requirements management is even more crucial with COTS projects to facilitate package selection, life-cycle management and scope control because no one package is perfect (see IdeaByte, [Use Requirements Management Tools to Improve Commercial Off the Shelf Package Implementation](#), Margo Visitacion).
- Analysis should accompany requirements management in recurrence and run anywhere from 15 percent to 25 percent based on the complexity of the integration and customization and “glue code” development to connect new packages to existing systems.
- Testing should be at a minimum 15 percent of overall effort, 35 percent being closer to acceptable. Vendors are only going to certify their own products, not how well the products will interact with internal systems (see IdeaByte, [Criteria for Accepting Externally Developed Software Packages](#), Margo Visitacion).
- Milestone management must be done as ruthlessly as with internally developed projects. Critical for

scope control and meeting expectations, milestones should be no more than three weeks apart for project health checks and progress measurement (see IdeaByte, [Estimate and Deliver Projects in Small Chunks](#), Liz Barnett).

- Iterative implementations are critical for scope control, just as implementing internally developed projects iteratively makes for more successful projects. The same holds true for COTS. If the selected packages are suites or multiple modules, consider implementing a pilot of a non-critical module first to work out the bugs in integration and rollout practices. This mitigates future risk in areas of resource requirements, vendor management and production requirements.