



# Post-Implementation Actions Steps

## Next

### Crucial

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Almost all businesses use some type of software solution to automate their environment, health, and safety (EH&S) processes. Most companies, however, direct all of their energies toward implementation and neglect to take steps after deployment to ensure that the software performs as expected. According to a recent article in *CIO Magazine*, only 20% of information technology (IT) shops perform post-implementation audits (“It Ain’t Over... Until You Do the Post-Implementation Audit,” M. Levinson, *CIO Magazine*, October 1, 2003, [www.cio.com](http://www.cio.com)). Moreover, software maintenance after deployment is more than fixing “bugs”—according to some estimates, fully 80% of the ongoing maintenance effort can be spent making changes to a system to extend its capabilities (“Software Maintenance Is Also About Upgradation,” R. Srinivasan, *Express IT People*, October 15, 2001, [www.expressITpeople.com](http://www.expressITpeople.com)). This month’s column explores two issues that companies should consider when implementing IT solutions: post-implementation audits and software maintenance.

#### POST-IMPLEMENTATION AUDITS

Most companies do not spend adequate time developing evaluation criteria and success metrics or performing quality checks to verify that the original software design was what was actually implemented. In fact, most fail to perform any kind of post-implementation audit (PIA). A PIA is a thorough evaluation of the benefits of a software solution. A PIA can not only show the “hard” benefits, such as changes in return on investment from the original business case and savings as a result of implementing the solution, but it can also show the “soft” benefits, such as improved communications, more consistent data, easier access to data, data sharing among different groups, and improved regulatory compliance.

After spending thousands, or even millions, of dollars on IT solutions, companies should make certain that these resources were well spent, that the software system meets their needs, and

that it adds value to the organization. Companies that embrace Quality Management System (QMS) and Environmental Management System (EMS) standards understand that audits are part of the “plan–do–check–act” cycle of continuous improvement. The 80% of companies that do not conduct PIAs typically blame the time required to conduct the audits, the drain on resources, and the need for accurate documentation throughout the entire system’s life cycle. Often, companies fear that the results from an audit will reflect poorly on them. However, the companies that take the time to develop a system scorecard up front—that is, clearly define a project’s objectives, approaches to be taken, and estimated costs and benefits—can minimize the surprises when a PIA is done.

#### ONGOING MAINTENANCE

If a system is deployed according to plan, then it should work, right? Not exactly. Like PIAs, software maintenance is part of the commitment to continuous improvement. A good project plan anticipates the need for procedures to evaluate the software and make modifications once the system is deployed. Software maintenance refers to any work after the system goes into “live” operation. In the real world, software maintenance includes the following post-implementation measures:

- **Corrective** — correct “bugs” identified by end users
- **Adaptive** — react to changes in external environment (e.g., hardware, other software systems, end users)
- **Enhancement** — extend capabilities beyond the original project scope and system specifications
- **Preventive Maintenance**

All other factors being equal, systems that are more complex are generally more costly to maintain. One way to reduce ongoing maintenance and upgrade costs is to implement a less complex system. This does not imply that companies should sacrifice some of the desired system capabilities, but rather that they seek

### TIPS FOR SUCCESSFUL PIAs

- ✓ Commit to continuous improvement
- ✓ Get the right people involved
- ✓ Select the right projects to audit
- ✓ Time the audit properly
- ✓ Collect quantifiable results
- ✓ Act on audit findings
- ✓ Focus on solutions, not on placing blame
- ✓ Share and apply lessons learned
- ✓ Incorporate PIAs as part of your systems methodology

possible, companies should deploy a system that has capabilities that all users can live with, instead one that tries to meet every anticipated need of individual departments or users.

Another way to reduce maintenance and upgrade costs is to implement a commercial software solution and minimize software customization. Many of today's commercial EH&S software solutions have configurable desktops, data entry forms, views, and reports that deliver user-specific content without requiring custom changes to the software code. Implementing a commercial solution that is hosted by an application service provider can also reduce maintenance costs. With commercial IT solutions, the software vendor shoulders much of the maintenance and upgrade burden, while the company is responsible for maintaining user access, tracking enhancement needs, and in the case of an internally hosted system, maintaining servers and software.

### IT AIN'T OVER UNTIL...

As the saying goes, "The opera ain't over until the fat lady sings" (Dan Cook, San Antonio sportscaster, 1978). Similarly, you can't walk away from a software installation and expect the system to manage itself. IT systems are dynamic, and should be evaluated after their implementation to verify their value. Be sure also to re-evaluate the system after it has been in operation for a while. And to ensure their ongoing value, IT systems need continuous maintenance, which includes not only fixing problems as they arise, but also anticipating and applying system upgrades. Companies that do the hard work up front can minimize surprises in PIA findings and can reduce their ongoing maintenance costs. ☺

### About the Author

Jill Barson Gilbert, QEP, is president of Lexicon Systems, LLC. She helps organizations increase business value by designing and implementing EH&S management solutions that leverage technology. A respected author and speaker, Gilbert is past chair of A&WMA's Information Solutions Committee. She can be reached at [JBGilbert@Lexicon-Systems.com](mailto:JBGilbert@Lexicon-Systems.com).

