



The Technologizing of EH&S

Keep in mind that the limited resources available from IT will be a key factor in the viability of many software solutions.

By Ben Archibald Jan 04, 2008

Increasingly, health & safety professionals find themselves the dubious owners of a variety of software tools and large-scale software systems. These tools and systems serve a variety of purposes, from assessment to measurement, to data management and analysis, to large-scale EH&S program automation and administration. For many, this “technologizing” of EH&S means an additional set of responsibilities and the development of a new set of competencies. Even though these tools and systems can provide substantial benefits, prioritizing and deploying them so they create the intended value for the enterprise can be daunting.

During the past 10 years, virtually every company has purchased software that didn’t fulfill the value it promised. According to the Standish Group, 35 percent of software projects started in 2006 were outright successes and 19 percent were outright failures. Forty-six percent of software projects are considered “challenged,” meaning they are significantly over budget or fail to meet the needs of users (Standish Group, Chaos Report, 2006). These are intimidating statistics for organizations looking to increase their reliance on software. While most companies chalk this up to “living and learning,” they want to minimize the future likelihood of championing a failed software rollout or investing in a regrettable capital expenditure.

The good news is that companies are improving their ability to achieve success and create value with software projects; companies have steadily improved their success rates with software projects since the Standish Group began its measurements in 1996. This article sets out to describe important trends and learnings of those 10 years and to relate those trends and learnings specifically to EH&S.

Four Hurdles to Overcome in Selecting the Right Software

Many solutions from software providers serving the EH&S industry are effective at creating value. Indeed, software companies (and other service providers) are an important source of innovation, helping to increase the value brought by the EH&S function. The challenge for an EH&S organization is to match the available solutions with its business.

Invariably, EH&S organizations are not faced with the same problems and challenges across—and even within—industries. Additionally, organizations invariably have important contextual factors—management support, budgets, industry regulations, and compliance concerns, to name just a few—that make solution selection a challenging proposition. To avoid selecting software that is a bad fit for solving your challenges, consider the following:

1. Avoid solution-driven objectives. Managers purchasing software would like to think they make

software purchases for their organizations rationally, through a nearly deductive process that leads them from their problems, challenges, and opportunities to the feature set of the software package they ultimately select. A simplified version of this process might look like this:

- Identify key EH&S business challenges and objectives.
- Identify the means and methods for meeting business objectives and tackling challenges.
- Create a business case quantifying the cost/benefit of meeting business objectives.
- Establish a budget.
- Identify the best software solutions to enable meeting the business objectives within the established budget.
- Select the software solution.

In this example, the selection of software depends upon knowing your business objectives and then matching them well with the capabilities of a software solution. Unfortunately, the “I need one of those” factor can overwhelm the otherwise rational selection process when an organization is not disciplined about understanding its unique challenges and objectives. An extreme example might look like this:

- Encounter a software product or solution.
- Identify ways in which the software will create value in the organization.
- Define the objectives of the business based on what the software can do.
- Create a business case that defends the value created by the features of the software.
- Establish budget for the software.
- Purchase the software.

I call the results of this latter example a “solution-driven objective” because the business objectives that justify the purchase decision are a reflection of the feature set and capabilities of a would-be software solution. Rather than asking, “What do I want my software to do for me?”—a high bar for a software solution—in this latter process, a company finds itself jumping over a substantially lower bar by asking, “Do I want to do the things that the software does?”

The trap of the solution-driven problem is not that EH&S organizations might select bad software. Selection processes that produce “solution-driven problems” may result in the selection of the wrong software—software that does not address priority business challenges.

2. Understand what you can and can't expect from your IT organization. EH&S organizations can expect varying levels of involvement from IT in the purchase and ongoing support of software. Regardless of the scale or the level of technology adoption in an organization, IT resources are limited and are likely to be prioritized to projects in core business infrastructure (e.g., desktop, network, e-mail, etc.), sales, marketing, and finance before they are allocated to EH&S. The limited resources available from IT will be a key factor in the viability of many software solutions.

3. Know your total cost of ownership/ operation. Total Cost of Ownership (TCO) is a term coined by the Gartner Group in 1987. While several methods exist for calculating TCO, they all involve

creating a solid sense of what it will really cost to use hardware or software after accounting for a broad set of factors. Since 1987, the term has evolved in many spheres to “Total Cost of Operation” because a) software isn’t really “owned,” it is licensed and b) many analysts were dissatisfied that the early Gartner TCO reports did not include the economic return (e.g., ROI, IRR, EVA, etc.) created by the software purchase. Regardless of which term you prefer, an EH&S organization must understand the real costs of using a software solution because these costs will be a critical factor in the value a software solution creates.

Licensing costs are obvious, but considerations should be made for training, maintenance, support, upgrades, and change management, as well.

4. Understand the role of scale. For many EH&S organizations, scale is an important facet; for others, scale is the challenge.

For example, my company is currently developing software designed to address some of the challenges faced by organizations whose large variety of jobs and job risks challenges their industrial hygiene and injury prevention specialists. In these organizations, the inability to easily understand, quantify, and explain jobs and job risks leads to inflated worker’s compensation costs. A pilot customer for this software has thousands of jobs and tens of thousands of factors contributing to injury. Given the principles noted earlier, we work to ensure the challenges and objectives drive the capabilities of the software. Management of the volume of jobs and job risks is a key design factor for our team because the volume of jobs is the fundamental business challenge.

While the software will perform many functions and solve many challenges common to virtually all EH&S organizations (knowing your risks for injuries, knowing the demands of your jobs, etc.), if you remove the factor of scale from a customer’s challenges, this particular solution will, quite bluntly (and at risk of a scolding from my colleagues in sales and marketing), not create sufficient value to justify the license costs.

Of course, there are myriad other hurdles to account for when selecting EH&S software solutions. These four hurdles, however, are often ignored, frequently leading to budget overruns and failed implementations. All of them deserve greater attention.

An Exciting Future!

The software landscape at large—within EH&S and elsewhere—has been going through a rapid and exciting evolution.

The most notable trend in software is the continuing emergence of Software as a Service (SaaS). EH&S isn’t the only department that has been unable to fully leverage software because of IT organization resource constraints. The software marketplace has responded by creating solutions that greatly reduce the need to access internal IT resources. Numerous software applications available today were specifically designed to be delivered inclusive of the use license, hardware/software infrastructure, and strategic and technical management services. The Internet has enabled this new set of possibilities.

SaaS emerged in 2000 and 2001 as an evolution of the Application Service Provider (ASP) model of the 1990s. Salesforce.com is a pioneer of the SaaS wave as the provider of a market-leading Customer Relationship Management (CRM) solution. WorkDay is leading the innovation of SaaS for “Enterprise Business Services” (which many of us understand to be synonymous with HR systems).

SaaS is especially exciting for EH&S. Where Salesforce.com and WorkDay are creating a revolution by providing functionality comparable to existing enterprise applications at a fraction of the costs because of the removal of IT management expenses, EH&S will benefit from the SaaS trend by gaining access to an emerging generation of software applications that simply never could have been implemented in the traditional, internally managed model because of EH&S's position on the IT priority scale.

Conclusion

I've been in the unique position of watching the software developed by my team be part of—and, in many cases, the inspiration for—radical improvements in EH&S operations around injury prevention. Through this experience, I have observed that the innovative customers we are fortunate enough to work with have one thing in common: They know their business and are willing to innovate to solve their challenges and create opportunities. When you think about creating innovations for your own organization, remember:

1. Avoid solution-driven objectives
2. Understand what you can and can't expect from your IT organization
3. Know your total cost of ownership/ operation
4. Understand the role of scale

There are exciting trends in the making, and the “technologizing” of EH&S brings great opportunities for innovation!

About the Author

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