

## Creating Sustainable Technologies

Information technology is essential to a modern organization's capacity to operate, compete, and grow, and it is evolving at a dynamic pace. But companies are burdened by old technologies that are difficult to replace yet critical for core business functions. While such old technologies need to be dealt with in their own specific ways, IT leaders should design new technologies with a focus on sustainability and accordingly approach their management in a proactive way.

Companies are often stuck with old technology, usually in the form of a legacy application. Legacy applications are, generally, quite important to the company's core business. Having been in place for many years, the legacy application appears to work. Management has concluded that it would take too much effort to upgrade or replace it. Since the application is seemingly effective, the pressure to upgrade is low and there is no need to challenge the status quo.

However, after some time, the application becomes unsupported by its vendor. First, there are no more features and bug fixes. Then additional security updates are discontinued. Additionally, the old application requires an old database, aged operating system and outmoded hardware to operate on. After some time, the database becomes unsupported by its vendor, the operating system becomes unsupported by its maker, and the hardware becomes unsupported by its manufacturer. Still, the application is being used, and business cannot currently afford any downtime for the application to be upgraded.

Then one day, the application breaks and stops operating, or the hardware it runs on breaks down. There is chaos - business operations come to a halt, and panic ensues. The one individual who really understood how it all worked has long left the company. Consequently, crucial knowledge of the application, including its history and environment, has been lost. The company scrambles to fix the issue, by whatever means necessary. The message from the IT management is clear: "Just tell me who to call!"

At this point in time it is too late - the damage has been done. The firm's good reputation has been lost, along with its credibility. The panic is spreading, and now the company is searching for ways to minimize the impact on its bottom line business. Management looks for an excuse, as someone must surely be responsible for this embarrassment. After all, the incident is very visible to clients, investors and internal employees.

It is clearly not a situation you want to be in. So, what can be done? Here are some practical suggestions for IT leaders on how to create sustainable technologies and manage them proactively:

- When deploying a new application or service, take the time to design the environment to be efficient and scalable. Consider not only the immediate future, but also what the organization's needs may be in five or ten years. Use open standards to maximize compatibility and flexibility.
- When deciding on the technology, consider its upgrade path far into the future. It should be well supported by a reputable vendor. If the application is open source, look for one with a large,

active support community. Find out who else uses the technology, and how. Strive for a balance between extra features and the ease of maintainability.

- Do not put all of your faith in the vendor. Vendors do not know your environment the way that you do. Many have not yet adapted their selling approach to account for the knowledge and information buyers have access to today. The vendor's tactic may be to bend their solution to fit your environment and needs. This is obviously not what you want. They also may be aggressive and focus on making a sale instead of solving your problem. Take all the information given by vendors with a grain of salt.
- Involve your engineers and other employees who will eventually participate in the implementation or operation of the project. Let them participate in the sales meetings. They will be able to see through the clouds of buzz words and potential deception. They will ask questions and then translate the answers for you to gain a better reception whether this product or solution will integrate well into your environment.
- Do not be biased to any specific technology. The purpose of technology is to solve a business problem. Always look at the technical solution from the business perspective. A technology that exists for its own sake is not very useful.
- Assist your business colleagues with choosing the correct technology. They may not know what to look for. After all, they are not technology experts; they just need a problem solved. If they select the wrong technology, your IT department will have to deal with it anyway. Educate your internal users, and help them find the best solution for their needs.
- Calculate the cost of not upgrading the technology into your ROI. Is it really more cost-effective to maintain the status quo, and wait for something to break? Where is the sweet spot - the point after which not upgrading will end up costing more? Do not wait to cross this point; plan to upgrade sooner.
- Consider upgrading your technology in smaller steps. The more time that goes by, the more difficult it is to upgrade. At some point, it becomes impossible to upgrade the technology, and entirely new technology must be implemented. This will take significantly more of your scarce resources than upgrading continuously, in small steps, and often.