

Information Technology's Impact on Businesses in Construction

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While the information technology solutions and platforms have changed frequently and significantly during the last two decades, the way in which contractors leverage this technology has adjusted more slowly. At that pace, one can identify some important lessons from the activity associated with selection, implementation, customizing and deployment. Following is a timeless top-10 keys to leverage of sorts that seem to be consistent irrespective of contractor type and size.

Leadership. Leadership of information technology (IT) should come from the top of an organization ... the very top. Too often, IT is led by an individual or department with the best of intentions but without the insight of the business strategy and direction of the firm. Today, primary resources like labor, equipment, subcontractors and technology must be in tight alignment with the business's direction and objectives.

In addition, an executive, also known as an executive sponsor, should be assigned to any significant IT initiative. This position is essential to a successful implementation. While the effort and time commitment is light, the value of his or her involvement comes from presence and messaging. When people in the organization see a top-tier executive committed to a new system and the requisite change, they are less likely to resist and more likely to contribute time. Finally, all significant implementations should have a project manager assigned to run "the job." This can be an actual project manager from the field or someone who can function as the project manager for the duration of the implementation. Too many initiatives begin without these roles in place, and the team has to scramble

at the end of the planned implementation when the effort is off the rails.

Requirements. Before setting out on a search of a new system or improved service, a company should carefully document both its requirements as well as its criteria for making an information technology selection decision. The software bazaar is a confusing place with many competing and conflicting messages. Without clear requirements and criteria, the best pitch will more likely prevail over the better product or service. Cost is a standard criterion, but others, such as degree of fit, customer service, system architecture, company viability, reference calling results, flexibility and ease of use are other important considerations. Further, if requirements are too broad, they can be met by most vendors and products and therefore are of little use in narrowing the field. Often, an RFP is used to narrow the candidate field from three or four to two or three options. From there, software demonstrations and due diligence are used to narrow the field to a primary candidate.

Deployment. The enthusiasm companies have for their new systems is understandable, but can sometimes lead to hasty deployments, before the solution is really ready. Builders would not let customers take occupancy until the building is ready and a certificate of occupancy is issued. The same care should be taken with any new technology solutions. The steps for deployment are design, testing and training. Sometimes a pilot process is even advisable. In the interest of speed or intended cost savings, these steps frequently are shortchanged to the detriment of the implementation.

Design. Rethinking existing processes and considering possible improvements in light of new solutions is the purpose of the design phase. Companies spend a lot of money implementing old processes on top of new systems, usually with unfortunate results. Thorough testing of the new solution before it is rolled out is also vital, as this process usually identifies problems in either design or setup. Iterative rounds of testing until the system behaves predictably is paramount to a good implementation. Finally, with some solution deployments, it can be advisable to run a pilot of the new system with a small group of users to see how the deployment goes before rolling out to the entire organization. This minimizes risk considerably and only slows deployment slightly. Modest increases in initial costs pave the way to substantial, longer-term savings.

Process Change. There is a tendency among companies or, maybe more precisely, some people within companies to hold on to old or legacy processes during an implementation. Those individuals fear change and all that comes with it. They may feel their positions are threatened. During a large-scale implementation of a new system, all processes should be open to debate. In most existing processes, 80% of the methods are a result of “the way we have always

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done it” or “that is the way the current system makes us do it.” Neither is a particularly defensible reason. Also, companies tend to try and bring about change departmentally rather than by function or broader process. Such compartmentalized actions seldom maximize the potential improvements that can be made with a broader view. Rather than just looking at purchasing, a company should look at the entire procurement process, from pay cycle to requisitions, RFQs, POs, change orders, receiving tickets and invoices for example. This can lead to a far more efficient enterprisewide process and better use of new systems.

The people who should be most engaged with the implementation should be those most open to change and willing to challenge the status quo. Those who would otherwise resist can be brought along later as the process shift is nearing completion. Resisters are not reliable in providing the kind of innovation that is necessary during an implementation. Processes should be examined with a more macro view as well as new systems that are being deployed.

Due Diligence. Once a preliminary decision is made to go with a particular software or hardware product, make sure to conduct proper due diligence before signing the license agreement. There are many indications that your decision is either largely right or horribly wrong, and they are evident during this period. The amount of due diligence can vary by the size of the investment, degree of risk and impact the solution is likely to have on the organization. Calling references, reviewing the license agreement and ensuring the demonstrations were thorough are a good start. Some companies will even visit other organizations similar to

their own that are currently using the product under consideration to see it in use and get a sense of how it really works. Mitigate risk by reviewing the license agreement, support agreement and services contract. These steps are important, particularly for a solution that the company will have to live with for a number of years.

The Vocal Minority. Contractors sometimes have a bad habit of letting the “luddites,” rather than the company’s leaders, drive strategy. “Oh, we can’t do it that way, they will never go along with it” is a common refrain.

Companies need to move faster in

their adoption than the lower quartile. They should always work to bring them along eventually, but some will refuse at all costs, and that refusal may create a different decision. If the company’s user community was stretched out on a continuum of technophobes to thought leaders, it is commonly a bell curve with the average users being the most common and the thought leaders being smaller in number but potentially more influential. When you think about technology and plan for the future, look carefully at the voices you are listening to.

Build/Buy. The line between buying software solutions and building your own used to be rather stark. Companies either bought solutions from the market and

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implemented them largely as is, or they built their own system. Today, the choices are less clear-cut. It is truly rare that companies opt to build their own solutions anymore. Instead, they will buy a solution of varying flexibility, implement it within the boundaries of its functionality, and then use various tools to enhance or extend the product to meet specific organizational requirements. This is an optimal strategy, and it allows a company to take advantage of products that are commercially available, economical and supported. It then allows the same company to invest in making enhancements for those functions that are most important and/or valuable ... perhaps even strategic.

Spreadsheets and email. Back in the old days (read “yesterday”), contractors had an overdependence on spreadsheets and email. Nearly every administrative function required one or both of these applications. They were the duct tape of the systems world. As more and more specialized applications have been developed, the demand for spreadsheet templates and email for mainstream processing should be diminishing. If you find your organization is still highly dependent on one or both, consider looking carefully for a better, more comprehensive solution in the marketplace. Spreadsheets have their place, but for data management and functional processing, there are hazards with which we are all familiar. Dependence on email will lessen as well, as workflow functions native to ECM, PM and ERP solutions come online.

Structure IT. The IT department, large or small, should aim for “where the puck is going, not where it is,” to borrow Wayne Gretzky’s hockey expression. IT departments that are not evolving tend to keep tools and technology in place that suit them rather than advancing to keep pace with the market. Progressive IT departments are outsourcing more maintenance functions and staffing carefully around systems software and users and less on computing infrastructure (hardware). This frees up personnel to spend more time aligning solutions with the users and business objectives. This has become more of a trend as many computer maintenance functions have become commodities in the market and can be outsourced more economically than previously was the case.

With the emergence of cloud computing, BIM and ECM, along with mobile solutions for the field, the degree of information technological change in the construction marketplace is rapid. Contractors are using technology to differentiate themselves from their competitors and to attract a talented workforce. But the availability of technology in the market does not bring value to your firm, nor does the ownership of it. It is not until solutions, well chosen and carefully deployed, begin to deliver upon their promise that true value is created and true differentiation is achieved. ■

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