

Avoid the Top 10 GIS PROJECT MISTAKES



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Software projects of any size are problematic. But GIS projects, given their size and complexity, can cause larger-than-usual problems for managers and team members. The potential troubles are well known: missed deadlines, blown budgets, unmet expectations, internal resistance - the list goes on and on. The trick is to manage a project and minimising the effects of others.

Seasoned project managers are good ringleaders. They know they must balance three elements - quality, schedule and cost - at all times. Quality shouldn't be sacrificed to adhere to a rigid budget. Nor should a schedule be tossed aside because of an obsessive focus on quality. Yet in even the most well-managed project, sometimes it makes sense to ease up on a deadline, a budget or a quality-control process. But these slips shouldn't simply happen. They should come from conscious decisions made by project managers who understand their objectives and know that project management is a balancing act.

With awareness, proper planning and sound project management, a GIS team can bypass many common mistakes.

Mistake No. 1:

Don't understand the project.

Solution: Develop an understanding of the full scope of the GIS project. To be successful, you must understand what you're building and why

you're building it. You must understand your requirements, who your customer is and who's in charge of the project. Of course, it's also important to understand what your project isn't. A project that tries to meet everyone's objectives likely will please no one.

GIS projects typically involve people from multiple departments, such as mapping, engineering planning, engineering design and operations. Users in different areas often will have different requirements - 40-foot positional accuracy may be sufficient for one group, whereas another needs 2-foot relative accuracy. Meeting disparate requirements isn't difficult if they're defined at the outset. Insist on written requirements - even if they're brief. It's important to bridge the gap between customers and programmers. Developing rapid prototypes is one way to determine whether the programmers are in sync with the customers.

Project managers should listen carefully to the goals of others and work to set goals all can share. Establish project goals, then work to gain customer support and management endorsement. It's essential that the entire team understands and supports common project goals - goals that keep people moving in the same direction. And, finally, know who's in charge. In the end, someone has to make some calls. And that someone often is the project manager.

Mistake No. 2:

Rush, rush, rush.

Solution: Set priorities and don't give in to the impulse to hurry past them. Never let the urgency of the situation cause you to sacrifice the fundamentals. Good projects begin with good planning. Good planning begins with an understanding of specific objectives, goals and priorities. An understanding of priorities helps you develop timelines for your project.

However, fast-track projects are necessary in many cases. Regulatory production and competitive issues often dictate that a project take place in the fast lane, and today's advanced software platforms are built for rapid rollouts. But never assume that a situation's urgency doesn't allow time for planning. No time savings will result from rushing into data conversion if a sound data model isn't in place. Cleaning up messy data always costs time and money. Make sure work gets done right the first time.

Similarly, don't merely throw people at a problem. Adding many staff members can slow down a project if productive staff members are pulled from their work to assist with lengthy training and orientation process. A better impulse is to study how the project's scope and timeline could be limited. The solution often isn't as difficult or elusive as it first seems.



Mistake No. 3:

Let quality take a back seat

Solution: Emphasise quality in all areas of the project. Shoddy or second-class work in one area drags down other areas and invariably throws the project off schedule. Without high-quality data conversion work, your project can become a protracted exercise in error identification and correction. Without adequate training, the staff can flounder - along with the project itself. And without a sound data model, you're building a house on sand.

In the GIS arena, shoddy data can do more than slow down the project. GIS project managers know from firsthand experience that quality failures can threaten lives if they lead a work crew to incorrect conclusions about the facilities at a particular location. Quality issues upstream invariably cause problems downstream. So sound project management calls for developing a sound data model, tightly controlling data accuracy, adequately training staff and maintaining a persistent commitment to high-quality work shared by the GIS team. Talk quality often, and lead by example.

Mistake No. 4:

Don't bother to re-engineer

Solution: Don't fight the changes that new technology will bring. Instead, guide those changes with judicious re-engineering. Many projects have been thrown asunder by failure to re-engineer. It's easy to find reasons for not re-engineering - a fear of rocking the end user boat, concern about retraining large numbers of people and a belief that tomorrow's software has to look like today's.

But re-engineering happens, whether it's wanted or not. Adopting new technology forces changes in business

processes - that's the nature of technological progress. So keep a firm hand on the helm of the project and set a course that includes reasoned, well-planned re-engineering. Don't think in terms of automating tasks that people are doing already. Think in terms of consolidating and replacing tasks. Look for ways to improve the entire workflow process.

And when re-engineering starts, batten down the hatches and be ready to weather the storm. Even the most well-planned, consensus-driven re-engineering projects encounter resistance from some of the people whose jobs will change. Spend time keeping staff well informed of the changes at hand and keeping management closely involved in the effort. With time, the storm will give way to fair weather.

Mistake No. 5:

Re-engineer with reckless abandon

Solution: Re-engineer carefully, not recklessly. Think carefully before forcing staff members to reapply for their jobs in the re-engineered organisation. Some of your best people might apply for jobs elsewhere. Avoid the trap of first laying people off and then trying to re-engineer to fill the gaps. Companies often find they've lost people who could've been instrumental in guiding re-engineering efforts.

Re-engineering should never be taken lightly. It's one of the most complex tasks faced by a project management team, and should never be done in isolation. When planning business process changes, it's essential that the project team involve senior management early on. All layers of management must understand and buy into the rationale and objectives for significant changes in work processes.

Plan for re-engineering carefully and move forward in a methodical

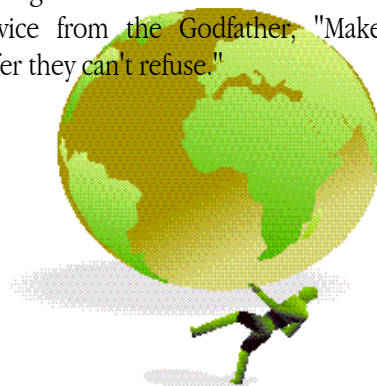
manner. Reckless re-engineering is the kind of stuff that made Dilbert and his boss famous. But what's funny in the comics is frightening when it's down the hall from you.

Mistake No. 6:

Let yourself be taken hostage by information technology

Solution: Don't let the old era drag down a new era. Never assume that you must use XYZ methodology because it's based on COBOL, or that you can't use Windows NT because the network guy won't touch it, or that you could never use three-button mice because they are not on the approved hardware list. Every organisation has its own set of technology biases. These biases typically are driven more by individuals' past experiences than by an organisation's current needs. Often, these biases should change.

When encountering such obstacles, lay emotions aside and, as the Godfather would say, "Don't get angry; reason with people." Get all the relevant parties to sit down at the table at the same time, get the problem on the table and put your issue-management tools to work. Address issues in a structured way. Set timelines for their resolution. Urge the pain-inducing organisation to become part of the solution. You may not be as effective as the Godfather at resolving issues, but you're sure to improve your chances. And if you continue to encounter resistance from a few individuals who fight needed change, don't be afraid to flex your project manager's muscle and follow other advice from the Godfather, "Make an offer they can't refuse."



Mistake No. 7:

Don't plan for second-order effects

Solution: Make contingency plans for events that could trip you up, such as the loss of key project members or a change in management, and have a strong internal communication structure in place. Project management is much like life itself - the only constant is change. During the life of a complicated GIS project, you'll likely witness an event on the scale of a key staff member's departure, a shift in the management team and its philosophies, heightened regulatory scrutiny, or a merger or a significant acquisition. Some teams experience all of the above during the life of their projects.

This points to the need for careful planning and constant communication. From the outset, you should ensure that the people working on your project want to be there, so they're more likely to stay. Ensure that your project is aligned with high-level management goals, such as improving customer services and cutting costs. Such goals typically survive management changes and mergers, and they'll often become much more important. Then develop a plan to bring new project members on-line and new management teams up to date. Schedule regular demonstrations, reviews and meetings to new and old staff current on success and continuing needs. It takes an entire organisation to implement a GIS.

Mistake No. 8

Don't bother to train people.

Solution: Develop a comprehensive training program early on, and place an emphasis on training everyone who needs to be trained. Never allow training to be an afterthought. The success of your project depends on your

staff's proficiency. Your project's success hinges on the abilities of many people at many levels, not just programmers. It's essential that technical personnel, end users and project managers receive the necessary training to be successful at their work. Training happens by choice, not by chance - you have to budget for it and schedule time for it.

Training doesn't stop at your department doorstep. It's important to have training plan in place for partner organisation, business professionals and managers at all levels who will work with end users. The ultimate success of any software project depends on the people who use the system. The better they're trained, the more successful they'll be.

Mistake No. 9:

Forget the fundamentals

Solutions: Remember the basics of Project Management 101. First and foremost, manage your goals and priorities. A properly run project should have clearly stated goals that are shared by team members. High-risk areas should be identified from the outset. Difficult aspects should be addressed as they rise to the appropriate place on the priority list, not put off until the end when you hope to have more time.

It's a sure bet that problems will arise with any software project. Develop a communication plan early and have conflict-resolution tools ready for action. It's essential that you have the right people involved quickly to make decisions and put issues to rest - before they escalate into big problems. Other fundamentals include careful tracking of the project and its timelines; use of change management techniques; and effective, timely communication. In a well-managed project, communication takes place broadly and regularly.



Mistake No. 10.

Let accountability lapse

Solution: Make it clear who's in charge of different project areas, empower them with the authority they need to make decisions, and keep them accountable. Those who have a clear understanding of their responsibilities and authority have a better chance for success even if they aren't given a rule book.

When problems arise, accept them - don't deny them or let them trigger a round of finger pointing. A blame game can kill the momentum of any project. Confront the problem, find a solution and move forward.

Most of all, remember who's ultimately in charge of the project. As project manager you should etch your goals into your forehead and be prepared to say no to anything that's contrary to those goals. Don't sit back and let things happen. Know your character, know your mission and keep your eyes on the prize.

Remember the past

All major software projects run into snags. How teams respond to problems determines the project's eventual success or failure. Avoid past mistakes by responding effectively to problems as they arise.

While avoiding the mistakes of the past, never forget to stop and celebrate successes, even the small ones. GIS technology is taking organisations places they've never gone before. So when you get somewhere that you've never been be sure to have your team pull over to take in the view. Then push on together.

