Developments in Project and Resource Management within IT Organizations

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Recently there have been very significant changes in the way leading IT organizations are planning and controlling their projects and operational work. IT organizations are not new to using project management techniques or project management software. Throughout the 1960s and 1970s large individual projects were managed with varying degrees of success using formal project management techniques and usually using complex software running on mainframes or expensive and proprietary mini-computers.

Project Support Offices (PSOs) were established to develop, maintain and train best practices and to be keepers of the project management discipline. For most organizations, the PSO was a static store of project information controlled by a specialist group. It was more of a Project Office than a Project Support Office and while producing schedules and sophisticated reports for internal and external customers as well as management, it was often out of touch with the practical operational issues and day-to-day realities within the IT organization. Project management and project planners were seen as specialists outside the world of everyday business management, speaking a different language ... of PERT, C/SCSC, WBS, CPM, Gantt charts. The PSO often became self-serving. This quote from an insider describing the use of PERT and other project management techniques on the US Polaris project describes succinctly the problem with this style of PSO:

"These (project management) procedures were valuable in selling the importance of the mission. More importantly, the PERT charts and the rest of the gibberish let us build a fence to keep the rest of the Navy out and get across the message that we were the top managers."

What also didn't help to establish project management techniques and software was the poor match between the needs of IT organizations and the characteristics of traditional project management methodologies and software:

- the methodologies and software were based around the Critical Path Method and PERT which didn't reflect practical ways of managing IT projects

- the ability to handle multiple projects and their interdependencies together with the ability to share resources across multiple projects, essential for most IT organizations, is a relatively recent consideration and not adequately supported

- Holidays, training, or other periods of 'non-availability' could only be modeled as a special type of project which didn't reflect reality or user demands for an easy-to-use tool

This poor fit between the needs of IT organizations and project management software was reflected in a 1994 survey by Spikes Cavell of over one thousand major UK IT departments which showed that almost 70% of these organizations did NOT use project management software.

And how well has this traditional established model and software served IT organizations? Dismally, as shown by recent research by major analyst groups

Meta Group (1997)

" … more than half of all new software projects are at least 180% over budget … resulting in $59 billion in losses to corporations"

Standish Group (1997)

" … of 6,516 IT application projects, only 27% are successful. A staggering 73% are late, over budget or cancelled altogether

Gartner Group (1998)

"Project success rates for 'normal' application development organizations are dismal. For Year 2000 … this represents a bet the business project whose failure could mean the collapse of the business itself"

To understand the reasons for this poor performance, and what IT organizations are now doing about it, let's take a look at why traditional project management falls short.

IT organizations today are under tremendous pressure to improve their efficiency and effectiveness in supporting their company's performance. IT organizations are also characterized by very high complexity. Not one or two major projects, but as many as hundreds of projects are being worked on simultaneously. Adding to this extensive workload is a very significant commitment to operational work such as support, maintenance as well as other 'non-productive' activity such as training and absences such as holidays and sickness.

Recent research by Benchmark Research showed the following, perhaps surprising, results on the breakdown of work within major IT organizations:

- 32% was project based work focussed on new systems development

- 28 % was a maintenance activity which combined a mix of significant project-based work but also an equal amount of reactive and unplanned short tasks

- 40% was operational support activity which was neither predictable nor planned

An approach which just focuses on managing individual large projects will not be addressing all the challenges IT departments face. These many demands on the IT organization's scarce resources create a severe problem. Whatever the projects an organization undertakes - whether delivering new systems, implementing new infrastructure, or undertaking change programs - the project managers will demand the best people to meet challenging goals and deadlines. Unfortunately, your best people are the ones you can least afford to remove from their current project assignments or from day-to-day operations. The consequence for your business is that everyone is working harder and harder, but not necessarily in the most important areas for the short, medium and long-term success of the business.

Under these circumstances, project managers often try to commandeer resources in order to force their own projects ahead. This delays other projects even more. As a result, key staff are working 60-hour weeks and yet are still unable to meet all the demands. Priority projects that only require a couple of months of effort take two years to get completed. And most projects run late.

What organizations are looking for seems simple enough:

- What work do we need to do to meet our goals?

- What are the priorities?

- How does each project impact other work?

- What skills and capacity do we have to complete the work?
  … and not only now but in the months ahead?

Project management can help with part of this but not the whole picture. And without visibility of the whole picture it's impossible to see the impact of change – however it's caused. The most important issue to recognize, and the reasons why some organizations cope with complexity and change while others struggle inefficiently is that resources - the key to the organization actually

implementing its plans and achieving its goals - are usually shared across operations activity and project work.

IT organizations are now finding approaches to successfully handling this complexity. And this is extremely important to an organization's success because what usually determines the success or failure of an organization is not how brilliant the strategy is, it's how well the plans get executed.

A number of initiatives are now being undertaken by major IT organizations to address these issues and improve the success rate for project delivery. These initiatives are supported by flexible and appropriate methodologies as well as new software applications for project and resource management.

Aligning effort with strategic goals

Every business understands the impact information systems can have on reducing operating costs, improving customer service or delivering new products. However, with department staffing of hundreds or even thousands of IT staff, few organizations have visibility of how well their investment in IT is aligned with the strategic goals of the business, such as customer retention, market expansion, organizational efficiency etc. And IT Directors are being asked to provide visibility of where money is spent and the return on this investment. Ensuring that projects are selected based on their contribution to achieving strategic goals will make a significant difference in prioritising the project workload and ensuring resources are not overloaded. A structured and disciplined approach to defining work, and measuring actual effort expended and accomplishment allows the organization to understand any variance and what the source of this variance is.

The new Project Support Office

The new Project Support Office is very different to the old model described above. The new Project Support Office redefines the approach to assume an operational *support* role for the project manager. The project support office does not run projects but now provides assistance to the project manager in achieving the goals of the project by providing support for planning, estimating, scheduling, tracking, reporting and controlling the project. The PSO provides knowledge of standardised project management techniques to ensure a consistent approach to projects across the organization as well as analysis that the staff running the projects doesn't have the expertise or time to accomplish. The PSO can also help senior management with prioritising and selecting projects as described above.

Managing all work

As project management systems were applied in organizations to manage their workload, tasks such as support and small maintenance activity, which could not be defined as projects went unplanned and unmanaged. This lack of visibility of what resource was being applied gave managers a very misleading picture of the real resource capacity of the organization and its ability to take on new work.

With a system which describes the organization's portfolio of work, along with the current and forecast use of resources, the organization's senior management can evaluate the impact of taking on new work:

- whether the new work can be achieved in the desired time scale

- what the impact is on existing work, and

- whether the priorities change for the other projects in the portfolio

And in identifying and solving problems, it's also important to be able to forecast what future skill and capacity requirements will be so that preparation can begin in time to meet these demands.

In managing the work of an IT organization there are a number of different levels of detail at which people, projects and tasks need to be planned and managed.

Project planning - which focuses on the scope of work to be performed, the skills required, the timeframe for accomplishment and interdependencies with other work

Resource planning - which focuses on what is the utilisation of the department's people, what skills are required now and in the future, and which specific individuals are available and should be assigned to accomplish specific tasks to achieve the work in the pipeline within the desired time-scales

Effort tracking – which focuses on the status of work in progress, what has been accomplished by each individual, what work remains, when individuals will be available etc.

Resource management and resource pools

In an ideal world where the IT organization's goal was to deliver a few large projects, resources might be dedicated full time to and "owned" by a project manager. But as we have seen, IT organizations today have a very significant workload of complex support and maintenance work as well as smaller projects that demand the best skills in the organization. An approach with dedicated project teams lacks the flexibility to meet these demands. Instead, to maximise the use of resources and to ensure flexibility in having the best people available when needed, many large IT organizations are adopting resource pools or supporting some form of matrix management.

Effective resource management approaches such as these within an IT organization can ensure that efficient use is made of skilled and expensive resources, and future skill requirements and training needs can be identified.

These are the drivers behind the change seen in IT organizations to move from project teams of dedicated resources to the approach of sharing resources across projects and operational work.

Conclusion

A number of different approaches are now being adopted by IT organizations to measure achievement and deliver value to the rest of the business. This includes choosing the right mix of projects, determining the number of projects the resources can support, defining the sequence and picking the right projects. This is enabling IT organizations deliver multiple complex projects to demanding time-scales as well as meet their operational commitments.

Software applications are supporting these new approaches. These approaches usually face tough implementation challenges, but have the potential to enable the IT organization to achieve improved efficiency and effectiveness and significantly raise its value to the business.

About

This article first featured in the 1999 Association of Project Managers Yearbook.