

1 Introduction to IT Project Management

Resource management is perhaps the single hardest problem that our species struggles with on a daily basis. At an individual level, we need to decide what to do with our time (time being a very limited resource), what to eat for lunch (food being another resource), and what investments to purchase (money is a resource too).

Organizations also manage resources: time, employees, capital. They survive by generating profits, and by staying ahead of the competition. Competition is always changing and organizations need to continuously lower costs or increase revenue, otherwise profits will shrink.

There are different roads to lowering costs or increasing revenue, such as reducing staff or advertising. Here, we will mostly concern ourselves with IT projects approach, such as development of an internal system that makes operations a bit more efficient, etc.

The key takeaway from this is that IT projects *must* result in some value for the organization.

2 What's a project?

A project is a temporary activity that generates value for the organization.

Successful project will have:

- a clear purpose: exactly how is organizational value generated
- ownership:
 - champions,
 - stakeholders,
 - sponsors,
 - clients,
- resources:
 - time,
 - money,
 - people,
 - facilities,
 - technology,

3 Roles

An IT project often involves four major categories of participants (not including customer/user):

- project manager:
 - responsible for ensuring project gets required resources,
 - ensures there's a process,
 - facilitates communications
 - keeps an eye on project direction and organizational value
- project sponsor:
 - champion for the project,
 - drives direction,
 - facilitates resources.
 - often upper-level manager who identified the need for the need for the project.
- subject matter experts:
 - user or team who has business knowledge needed to build project
 - may do documentation, or be interviewed
- technical expert: folks implementing the project
 - developers,
 - testers,
 - analysts,

4 Risks

IT projects often have both internal and external risks:

- internal:
 - cost overrun
 - time overrun
 - employee turnover
- external:
 - dependency on other suppliers

- dependency on contractors
- assumptions: some of these may turn out to be wrong.
 - estimates of budget
 - estimates of manpower
 - estimates of technology capability
 - estimates of time

5 Division of Labor

Projects are often partitioned into tasks that are performed by one or few developers. Often such partitioning is not feasible in early stages of the project (no clear way of dividing labor that hasn't been designed yet).

Most times there are dependencies among tasks—so they have to be performed in a certain order.

6 Organizational Changes

Many IT projects result in some change to business operations. Unless clearly defined, such changes may be misunderstood and/or unwelcome by the staff. Often the success of the project requires the social cooperation of staff members at multiple levels of the organization to buy into the technological solution.

7 Portfolios

Organizations often have multiple projects in development (project portfolios), with a queue of other projects in the pipeline. It is not wise to undertake too many risky projects at the same time.

Many organizations have an overall *program* in place that drives individual projects. For example, the program could be migration to the cloud, which may include many individuals projects with similar goals and techniques.

8 Funding

Decision to fund a project should depend on the value the completed project will bring to the organization, weighted against the risks that the project will fail.

If there are multiple discretionary projects that can be undertaken, the one with the most estimated value should be undertaken first.

Some projects may not be discretionary.

9 Failures

Success rates for IT projects is generally low. There are multiple failure dimensions:

- people:
 - people have various motivations.
 - lack of top management support
 - lack of user involvement
 - wrong users: can lead developers down the wrong path with incorrect requirements or business problem.
 - poor communication
 - poorly defined roles and responsibilities
 - lack of accountability
 - unrealistic expectations
 - conflicting stakeholder goals
 - poor decisions
- process:
 - poorly defined or not followed can lead to trouble
 - poor planning
 - lack of controls
 - poorly defined requirements
 - inadequate testing
 - non-existent process
 - poor execution
- technology:
 - obsolete,
 - unproven
 - incompatible.
- organization:
 - lack of clear strategic direction
 - changing requirements, priorities, cutting funding,
 - competition for funding

- beurocracy
- lack of oversight
- poor change management

10 Value to the Organization

Value should be clearly defined and ultimately measurable. Value is more important than deadlines or requirements. e.g. If a project is on time, on budget, and meets all user requirements... it could still be a failure if it doesn't bring value to the organization.

All IT projects are capital investments and need to be treated as such. Costs and returns need to be estimated. Just as with any investment, there is risk—and best-case scenario rarely happens: managing expectations, using realistic goals, and frequent communication and updates ensures that everyone is on the same page.

Within organizations there is often competition among projects for resources—developers or budget, etc. The projects that win out should be the ones that bring the most value to the organization.

11 Knowledge Management

Organizations often have institutional knowledge that should be stored someplace. Such knowledge may enable quick decisions regarding project opportunities, or provide a lessons-learned perspective for future projects.

Management tackling to improve internal business processes may not realize that the thing they are trying to improve was already on someone's radar, who may have more insight into the problems/opportunities in improvement that business process. Communication and research are very important.