

Project Management 101

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An often quoted statistic is that 61%¹ of the projects initiated are failures because they did not result in the desired objective, they were not completed in the prescribed time, they were more expensive than planned or all of the above. Enlightened project management is the key to successful project achievement

If we define a project as the assembly of a collection of resources with a beginning, middle, and end and with an achievable objective, that broad definition will apply to everything from landing a man on the moon to constructing a pyramid or installing a software package. The management of the project, in its simplest terms, is doing what it takes to arrive at the desired objective.



Just as the proverbial eating of an elephant is accomplished one bite at a time, so the completion of a project is easier if it is divided into a number of smaller components. While there may be any number of lists of such components, the Project Management Institute² has established, for the sake of uniformity, the following nine elements:

- 1) Scope
- 2) Schedule
- 3) Cost
- 4) Labor
- 5) Materials
- 6) Quality
- 7) Risk
- 8) Communication
- 9) Integration

For this article we will focus on the first three elements: **Scope**, **Schedule** and **Cost**. By keying into these elements, the other six elements are incorporated as a matter of course.

The **Scope** is the statement of what is to be accomplished. As noted above, it may be sending a man to the moon or building a pyramid or implementing a new electronic health record system (EHR). The Scope can be a simple statement or, in the case of defining the propulsion systems, trajectories, astronaut qualifications, etc. etc. etc. required to send a man to the moon, it can result in millions of documents, models, calculations and so on.

¹ Gartner Group, Inc. study; Computer Weekly Feb. 2003

² Project Management Institute. Pmi.org



to defining each activity is to allow the responsibility for its accomplishment to be assigned to a specific individual for its duration and to be able to be monitored and accomplished in a suitable amount of time. The term "suitable" cannot be defined in general terms for every project in every industry; therefore, it will depend on the experienced judgment of the Project Manager.

Project Schedule

Once the scope is divided into its component activities, each activity has to be assigned its duration and the individual that is responsible for it. A project will have a much higher likelihood of success if the responsible individual has some say in determining its duration because, in the end, he/she will be held responsible for its accomplishment on time. Of course, this individual cannot have the final say because there may be conflicts among the activities in which case a higher level of authority, a Project Manager for example, needs to have the final say and to take responsibility for that decision.

"How does a project get to be a year behind schedule? One day at a time." Fred Brooks

The list of activities together with their durations and responsible individuals is then assembled into a schedule. A review of this schedule needs to be made to determine its workability and the sequencing of the various activities. In this review, it is also necessary to determine constraints among the activities, that is, which activities have to be partially or completely finished before other activities can begin.

Laying out the duration of each activity on a calendar, creating what is known as the Gantt chart, provides a visual representation of the project plan.

There are sophisticated software packages⁴ that can assemble and manipulate this growing assembly of details but, for a simple project such as relocating a two-man office to another floor, the plan can be completed manually or with the aid of a spreadsheet like Excel. The illustration below will help to clarify the above concepts; however, there is one additional item that is needed to complete the picture.

Project Cost

The **Cost** of the project can be developed by applying the cost in some common medium (e.g. dollars) of each resource within each activity to each period of time that that activity occupies. The vertical sum of all the costs in each will provide the cash flow that is planned to complete the project.

⁴ Microsoft Project, Primavera, etc.



Chart illustrating the three elements of a project: **Scope, Schedule and Cost.**

Project: Relocation of Office				Mon	Tue	Wed	Thu	Fri	Sat	Total
Activity	Responsibility	Start	Finish							
Order furniture, blinds, computers	Jack	2-Feb	2-Feb	\$1,200						\$1,200
Deliver furniture, etc.	Sam	3-Feb	5-Feb		\$150	\$100				\$250
Deliver computers	Sam	5-Feb	5-Feb				\$160			\$160
Set up computers	Anne	6-Feb	6-Feb					\$80		\$80
Install furniture, etc.	Joan	5-Feb	5-Feb				\$300			\$300
Relocate personnel	Bill	6-Feb	6-Feb						\$50	\$50
Cash flow				\$1,200	\$150	\$100	\$460	\$80	\$50	\$2,040

Note:

Computers cannot be set up until after they are delivered

Personnel cannot be relocated until the computers are set up

With the project plan in place, it is much easier to communicate to all stakeholders what has to be done, when and who is responsible for doing it, as well as the expected cost as each item is accomplished. It is also relatively easy to monitor each activity to ensure that it is being accomplished as planned. If there are deviations from plan, and there almost always are, monitoring progress closely will alert those responsible for this in time to allow either a modification of the plan or the addition of resources to bring progress back to plan.

There are many volumes written on the subject of effective planning for almost every industry and many more on the efficient management of the project; however, we are constrained by time and space of this basic dissertation. Future articles will go into more detail on specific topics as we help to unravel the mysteries of project management!

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