IT Project Management

In this course, we will briefly introduce project management. To become a good project manager, you should complete further study in this area. Project management certificates are offered by universities such as UMUC, and there is at least one recognized certification authority—the Project Management Institute (PMI). PMI evaluates both your experience as well as your knowledge before a certification is awarded, because project management is best learned from a combination of classroom study and real world experiences. You should be familiar with the following definitions:

- **Project**: temporary endeavor undertaken to create a unique product, service, or result

- **Project management**: the application of knowledge, skills, tools, and techniques to project activities to meet project requirements.

What is the role of a project manager? Is the role of an IT project manager different? A project manager must control the four key variables associated with any project: time (schedule), resources (human and financial), scope of work, and quality. The project manager leads the development of a project plan that takes all of these into consideration. Frequently, trade-offs are required. For instance, the budget may be limited, which can restrict the scope of the work and the number of people who can work on the project. Or, the project may have a firm deadline, which can drive costs up since more people would have to be hired to complete the project on time. When any one of the four variables changes, it will have an impact on at least one (and often more than one) other variable. A strong project manager pays close attention to the project plan and the progress of the project against the plan, and manages the variables appropriately to ensure successful completion of the project. Successful completion is accomplished if the project is delivered on time, stays within the allocated budget, and performs the required functions correctly. This role is the same for any project manager, including an IT project manager.

The four variables are interdependent: You cannot change one without affecting the others.

For example
- Decreasing a project's time frame means either increasing the cost of the project or decreasing the scope of the project to meet the new deadline.

- Increasing a project's scope means either increasing the project's time frame or increasing the project's cost (or both) to meet the increased scope changes.

- Decreasing a project's resources (either people or money) will necessitate a reevaluation of the scope and/or the quality. The scope may need to be reduced to avoid decreasing the quality. If the scope must remain unchanged, quality will suffer.

- Increasing a project's quality requirements will require more time and money to incorporate more perfection and test all possible outcomes for correctness.

Project management is the science of making intelligent trade-offs. As things change, the project manager must adjust the four variables to keep them in balance.

The first step is the selection of strategic projects. Now, the project manager does not select the projects alone; usually that is done by senior management after the presentation of a business case that outlines the project plan, stating the objectives (how the project supports the corporate strategy), cost, schedule, functionality, and risk associated with the proposed project. Once senior management allocates resources, the project manager ensures the project plan is executed according to plan. A smart project manager makes sure that his or her plan has SMART criteria. The SMART criteria will help to ensure that the project has created understandable and measurable objectives:

- **S**pecific

- **M**easurable

- **A**greed upon

- **R**ealistic

- **T**ime framed

These objectives are documented in the project plan and used throughout the project's life to help keep the project on track. The project manager monitors progress against the plan, managing any changes and mitigating risks as they become known. Project risk management involves identifying potential events or conditions that could have a negative effect on the project, estimating the impact if the risk occurs, determining a mitigation strategy to reduce the likelihood of the risk occurring, and identifying what will be done if the event or condition actually arises.

Since almost no project goes exactly according to plan, the project manager needs a tool to detect and manage the changes. The process of change management is this tool. The project manager documents all approved changes, revises the project plan accordingly, and then continues managing and monitoring the project.

Keep in mind that the job of the project manager is to stay on top of all the variables and manage the cost, schedule (time), scope, and quality. He or she must seek additional resources (money or people) or a schedule change (time) when the scope increases, and must be able to articulate the effect on quality if additional resources or a schedule change are not authorized. The project manager is responsible to senior leaders to monitor the variables, keep leadership informed, and propose solutions for changes as they occur.