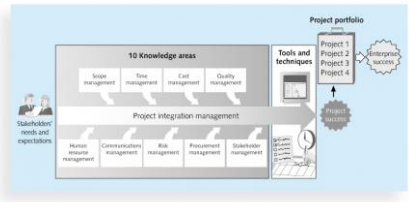
Figure 1-2 Project Management Framework



10 Project Management Knowledge Areas

- **Knowledge areas** describe the key competencies that project managers must develop
- Project managers must have knowledge and skills in all 10 knowledge areas (project integration, scope, time, cost, quality, human resource, communications, risk, procurement, and stakeholder management)

KEY AREAS FOR YOUR PROJECT

- **SCOPE MANAGEMENT**
- **TIME MANAGEMENT**
- **QUALITY MANAGEMENT**

Advantages of Using Formal Project Management

- Better control of financial, physical, and human resources
- Shorter development times
- Lower costs
- Higher quality and increased reliability
- Improved productivity
- Better internal coordination
- Higher worker morale

Selecting a Project

PROJECT SIZE

- **TEAM SIZE OF 4**
- **50 – 70 ACTUAL HOURS OF WORK**
  - **Administration overhead additional**
- **50 – 100 REQUIREMENTS**
  - **Work Definitions – Assigned to individuals**
  - **Each requirement written in one to two lines**
- **Project must be completed by week 11 Fri, March 31**

Importance of Project Schedules

- Managers often cite **delivering projects on time** as **one of their biggest challenges**
- **Time** has the least amount of flexibility; it **passes** no matter what happens on a project
- **Schedule issues are the main reason for conflicts** on projects, especially during the second half of projects

Project Time Management Processes

- **Planning schedule management:** determining the **policies, procedures**, and **documentation** that will be used for planning, executing, and controlling the project schedule
- **Defining activities:** identifying the **specific activities** that the project team members and stakeholders **must perform to produce the project deliverables**
- **Sequencing activities:** identifying and documenting the **relationships** between project activities
- **Estimating activity resources:** estimating **how many resources** a project team should use to perform project activities
- **Estimating activity durations:** estimating the number of work periods that are needed to complete individual activities **= how long?**
- **Developing the schedule:** analyzing **activity sequences**, activity resource estimates, and activity duration estimates to create the project schedule
- **Controlling the schedule:** controlling and **managing changes** to the project schedule

Defining Activities

- An **activity** or **task** is an element of work normally found on the work breakdown structure (WBS) that has an expected duration, a cost, and resource requirements
- Activity definition involves developing a more detailed WBS and supporting explanations to understand all the work to be done so you can develop realistic cost and duration estimates

Milestones

- A **milestone** is a significant event that normally has no duration
- It often takes several activities and a lot of work to complete a milestone
- They're useful tools for setting schedule goals and monitoring progress
- Examples include obtaining customer sign-off on key documents or completion of specific products

SMART Criteria

- Milestones should be
  - **S**pecific
  - **M**easurable
  - **A**ssignable
  - **R**ealistic
  - **T**ime-framed

Milestones

- You have several general predefined milestones
  - Week 2, Fri Jan 20th
    - Phase 0- Team Formation, and Project Title Proposals (up to 0.5 page) due
  - Week 4, Fri Feb 3
    - Phase 1- Project Proposal and Specification, due
  - Week 6, Fri Feb 17
    - Phase 2- Front-end Design (Prototype 1), due
  - Week 9, Fri Mar 17
    - Phase 3- Back-end Design (Prototype 2), due

Milestones

- You need SMART milestones specific to your project
  - Milestones that are completion of tasks that have been assigned to individual team members
  - NONE of the general milestones are assigned to any one individual.

What Is Project Quality Management?

- **Project quality management** ensures that the project will satisfy the needs for which it was undertaken
- Processes include:
  - **Planning quality management**: Identifying which quality standards are relevant to the project and how to satisfy them; a **metric** is a standard of measurement
  - **Performing quality assurance**: Periodically evaluating overall project performance to ensure the project will satisfy the relevant quality standards
  - **Performing quality control**: Monitoring specific project results to ensure that they comply with the relevant quality standards

Types of Tests

- **Unit testing** tests each individual component (often a program) to ensure it is as defect-free as possible
- **Integration testing** occurs between unit and system testing to test functionally grouped components
- **System testing** tests the entire system as one entity
- **User acceptance testing** is an independent test performed by end users prior to accepting the delivered system

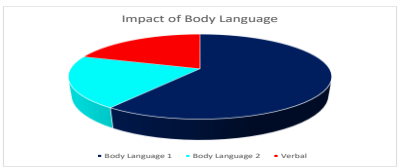
Schedule Control Suggestions

- Perform reality checks on schedules
- Allow for contingencies
- Don't plan for everyone to work at 100% capacity all the time
- Hold progress meetings
  - Be clear and honest in communicating schedule issues

Importance of Good Communications

- The greatest threat to many projects is a failure to communicate
- Our culture does not portray IT professionals as being good communicators
- Research shows that IT professionals must be able to communicate effectively to succeed in their positions
- Strong verbal and non-technical skills are a key factor in career advancement for IT professionals

Face-to-Face Communication



in business encounters, body language accounts for
- **58% of communication;**
- 35% is through how the words are said;
- 7% through content or words that are said.

Personal Preferences Affect Communication Needs

- Introverts like more private communications, while extroverts like to discuss things in public
- Intuitive people like to understand the big picture, while sensing people need step-by-step details
- Thinkers want to know the logic behind decisions, while feeling people want to know how something affects them personally
- Judging people are driven to meet deadlines while perceiving people need more help in developing and following plans

Encouraging More Face-to-Face Interactions

- Short, frequent meetings are often very effective in IT projects
- Stand-up meetings force people to focus on what they really need to communicate

Developing the Project Team

- The main goal of **team development** is to help people work together more effectively to improve project performance
- It takes teamwork to successfully complete most projects

Choose Your Team Members Wisely

- Same Schedule
  - It is easier to meet and communicate if you are on the same schedule.
- Each team member is responsible for the entire project
  - If a team member drops out the remaining team members are still responsible to complete the entire project.
    - That happens in industry as well. A team member leaves, the project must still be completed on time.

Conflict Can Be Good

- Conflict often produces important results, such as new ideas, better alternatives, and motivation to work harder and more collaboratively
- **Groupthink**: Conformance to the values or ethical standards of a group. Groupthink can develop if there are no conflicting viewpoints
- Research suggests that task-related conflict often improves team performance, but emotional conflict often depresses team performance

Five Dysfunctions of a Team

- Patrick Lencioni, author of several books on teams, says that "Teamwork remains the one sustainable competitive advantage that has been large untapped"*
- The five dysfunctions of teams are
  1. Absence of trust
  2. Fear of conflict
  3. Lack of commitment
  4. Avoidance of accountability
  5. Inattention to results

*Lencioni, Patrick, "Overcoming the Five Dysfunctions of a Team," Jossey-Bass: San Francisco, CA (2005), p. 3.

General Advice on Teams

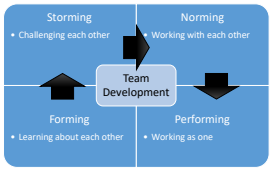
- Be patient and kind with your team
- Fix the problem instead of blaming people
- **Establish regular, effective meetings**
- Allow time for teams to go through the basic team-building stages
- Limit the size of work teams to three to seven members

General Advice on Teams (cont'd)

- Plan some social activities to help project team members and other stakeholders get to know each other better
- Stress team identity
- Nurture team members and encourage them to help each other
- Take additional actions to work with virtual team members

Tuckman Model of Team Development

- Forming
- Storming
- Norming
- Performing
- Adjourning



http://depts.washington.edu/oeii/resources/changeModels/mc_team_development.pdf

FAILING TO PLAN
IS
PLANNING TO FAIL

Benjamin Franklin

GOOD LUCK