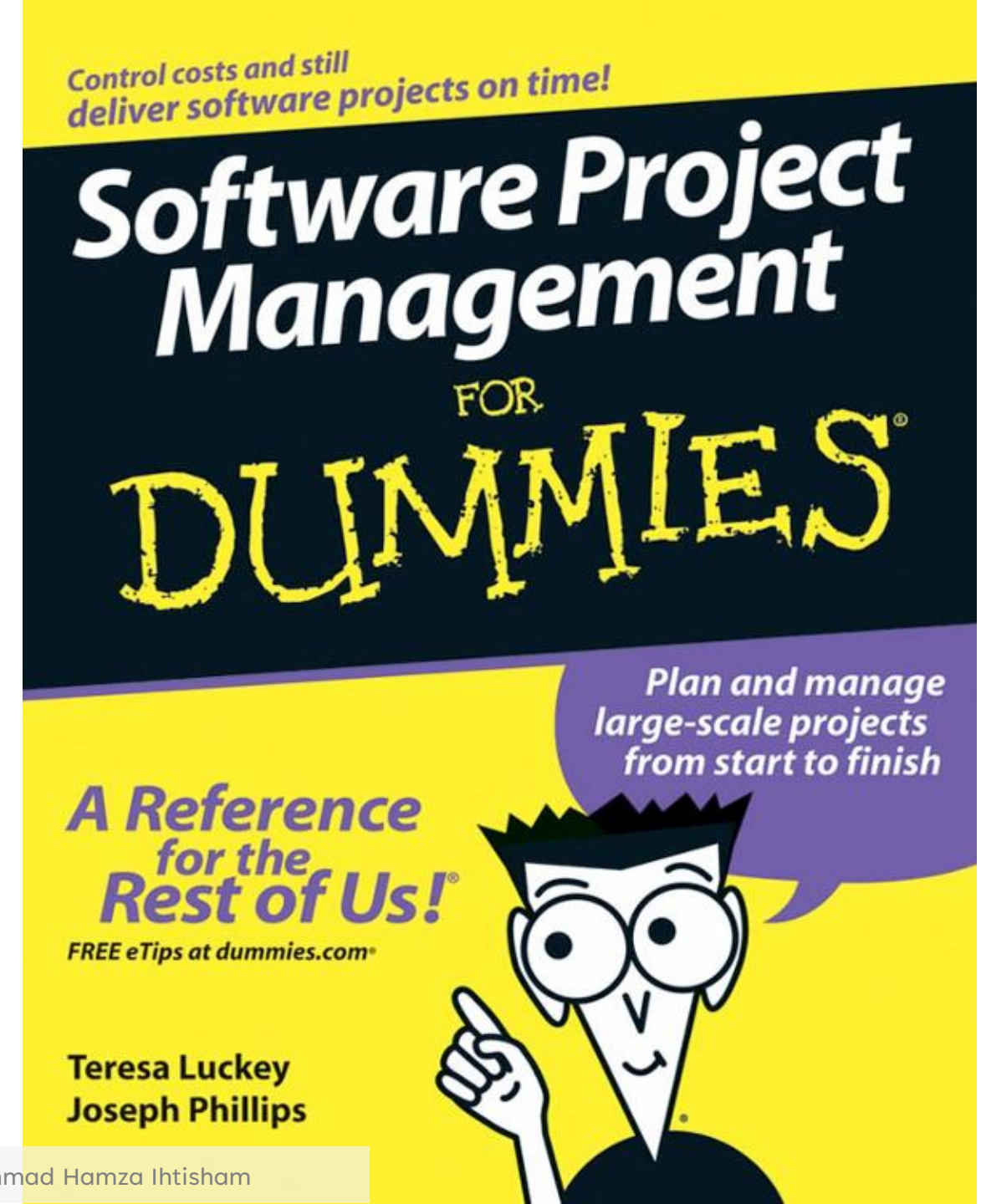
IT PROJECT MANAGEMENT

Muhammad Hamza Ihtisham

About Course and learning outcomes

- CLO1: Articulate the various phase in project management stages of SDLC and recognize the importance of each phase in the context of project management.
- CLO2: Allocate and manage project resources, including human capital, time, and budget, to maximize efficiency and effectiveness.
- CLO3: Identify potential project risks, assess their impact, and devise strategies to mitigate or respond to these risks.
- CLO4: Implement modern project management tools and software to aid in task tracking, collaboration, and project monitoring.
- CLO5: Determine the criteria for project success and employ evaluation techniques post-project to assess outcomes and derive lessons for future projects.

- Guide to the Project Management Body of Knowledge (PMBOK® Guide), 6th Edition, Project Management Institute, 2017, ISBN-10: 1628251840.
- **Teresa Luckey, Joseph Phillips, Software Project Management for Dummies, 1st Edition, For Dummies Publisher, 2006, ISBN 0471749346.**



Explore project management roles

- **Junior Project Manager:** Performs all aspects of being a project manager alongside a more experienced professional.
- **Project Administrator:** Assists the rest of the project team with administrative tasks.
- **Project/Program Assistant:** Supports team members working on a project and offers administrative support. May perform research or create training documents along with other jobs as assigned by program leaders.
- **Project/Program Coordinator**: Participates in hands-on project work and administrative tasks. Works under a project manager to make sure projects are completed on time and within budget.
- **Project Support Specialist:** Works alongside a project manager and team members to oversee assigned projects. May also be responsible for training and developing employees to perform designated tasks.

Traditional project management roles

- **Project Manager:** Responsible for the initiating, planning, executing, monitoring, and closing of a project. Includes industry-specific titles like IT project manager, construction project manager, or engineering project manager, which utilize skills that are transferable among industries.
- **Project Analyst:** Moves a project along by sharing information, providing support through data analysis, and contributing to strategy and performance.
- **Project Leader/Director:** Drives core decision-making and sets the direction for the project. Usually knowledgeable about the product or deliverable.
- **Project Controller:** Primarily responsible for project planning. You are likely to see this job title in industries like engineering and construction.
- **Technical Project Manager**: Conducts project planning and management for identified goals within a company. Ensures that projects are completed to the requirements within a defined time frame and budget.
- **Project Management Office (PMO) Analyst:** Manages the progress of complex projects to ensure timely execution and completion.

Program and portfolio management roles

- **Program managers:** Manage a group of projects that are related or similar to one another and handle the coordination of these projects. They facilitate effective communication between individual project managers and provide support where necessary. They also help create and manage long-term goals for their organization.
- **Portfolio managers:** Responsible for managing a group of related programs within the same organization. They coordinate various programs in order to ensure they are on track and that the organization is meeting its strategic initiatives. Portfolio managers look at all projects and programs within the organization and prioritize work as necessary.

How project managers impact organizations

Focusing on the customer

Building a great team

Fostering relationships and communication

Managing the project

Breaking down barriers

What are the core job responsibilities of project managers?

- Interpersonal Skills
  - Decision making
  - Communications and Escalation
  - Strong Organizational Skills.
    - Planning
    - Collaboration
    - Documentation
    - Quality Assurance
- Building Relations
- Controlling Change
- Empower the team
- Flexibility

Part I: Starting Your Software Project

Defining Software Projects

Software project management is a type of project management that focuses specifically on creating or updating software.

Projects can have many attributes

- They change or improve environments in organizations.
- They get things done.
- They are unique from other work.
- They have a defined start and end date.
- They require resources and time.
- They solve problems.
- They seize opportunities.
- They are sometimes challenging.

The Nine Project Management Knowledge Area

Table 1-1 The Nine Project Management Knowledge Areas

Knowledge Area	*What It Does*
Project Scope Management	Controlling the planning, execution, and content of the project is essential. You need to pay special attention to both project and product scope so that the software you end up with is what you intended to make in the first place.
Project Time Management	Managing everything that affects the project's schedule is crucial. Who wants tax software that comes out on April 16?
Project Cost Management	Projects cost money, and this knowledge area centers on cost estimating, budgeting, and control.
Project Quality Management	No project is a good project if the deliverable stinks. Quality doesn't happen by accident, so this knowledge area works to ensure that the product you are producing is a quality product that meets customer expectations.
Project Human Resources Management	The members of the project team must get their work done. Hiring or assigning people who are competent and managing them well are at the center of this knowledge area.
Project Communications Management	Project managers spend 90 percent of their time communicating. Communications management focuses on who needs what information — and when.
Project Risk Management	This knowledge area is about avoiding doom. The focus is on how to anticipate risks, handle them when they arise, and take advantage of the opportunities that can help a project.
Project Procurement Management	Sometimes during the course of your software project, you may be required to work with vendors to purchase goods and/or services. You may even be the vendor that someone else is contracting for their project. This knowledge area is concerned with the processes to create vendor contracts and to purchase goods and services.
Project Integration Management	What happens in one knowledge area affects attributes of the other knowledge areas. The ninth knowledge area is fan-freakin-tastic because its purpose is to ensure the coordination of all the other knowledge areas.

Comparing Projects and Operations

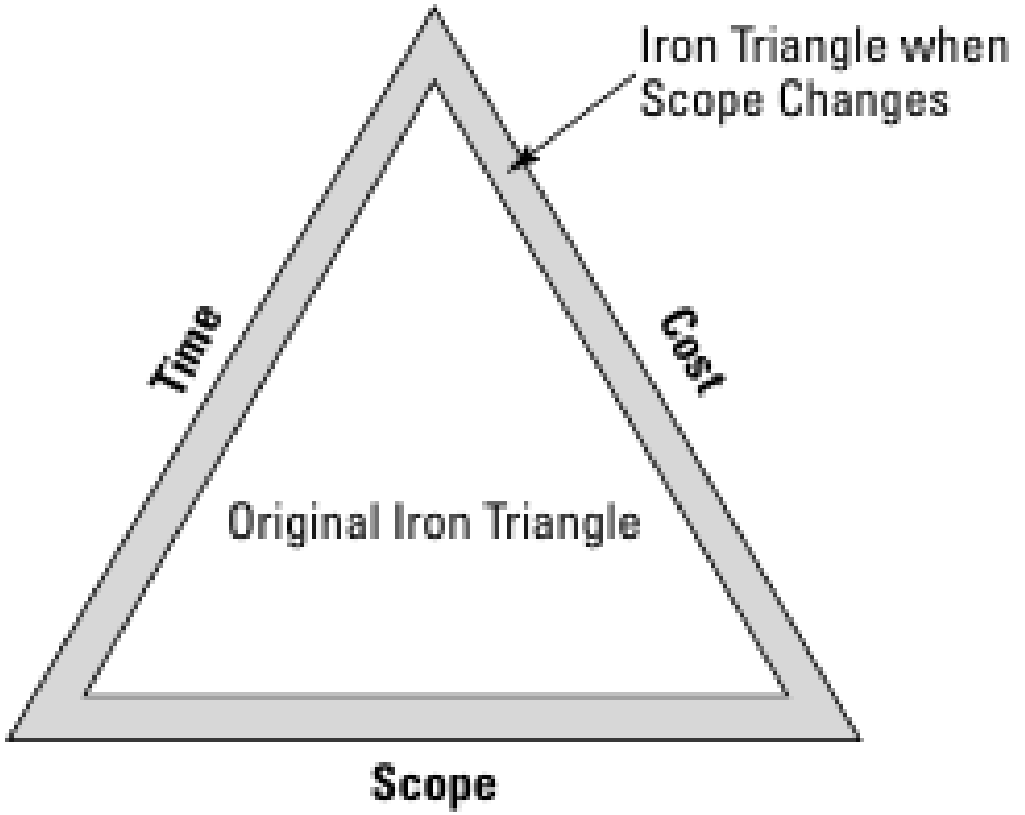
Examining Project Constraints

- Resource constraints such as a team member being assigned to too many concurrent projects
- Tight deadlines
- Budgetary limitations
- Government regulations
- Limitations of software
- Scope limitation, such as being required to use a particular existing interface
- Hardware requirements
- Anything else that restricts your options

Understanding Universal Constraints

- **Time:** Time constraints may range from a reasonable schedule to an impossibly short timeframe that can't budge because the product simply must be on shelves by September 15 (never mind that September 15 was last week)
- **Cost:** Cost constraints are the usual budgetary restrictions that you expect. ("Here's a nickel. Make it happen.")
- **Scope:** Sometimes scope is a no-brainer (you're working on the 700th rev of Acme Wizware to fix a bug). On the other hand, scope can be a bit trickier if you're dealing with an executive who isn't sure what he wants

Triangle of Project Management



Managing time constraints

- Time constraints are simply deadlines. You have a project to create a new piece of software within six months. Or there’s an opportunity in the marketplace for a new application, but the window of opportunity is small, so you have no time to waste.
- Time can also be calculated as labor: Working or bill able hours, processor speed, database consistency, and even network latency issues can be used to estimate time constraints

Managing cost constraints

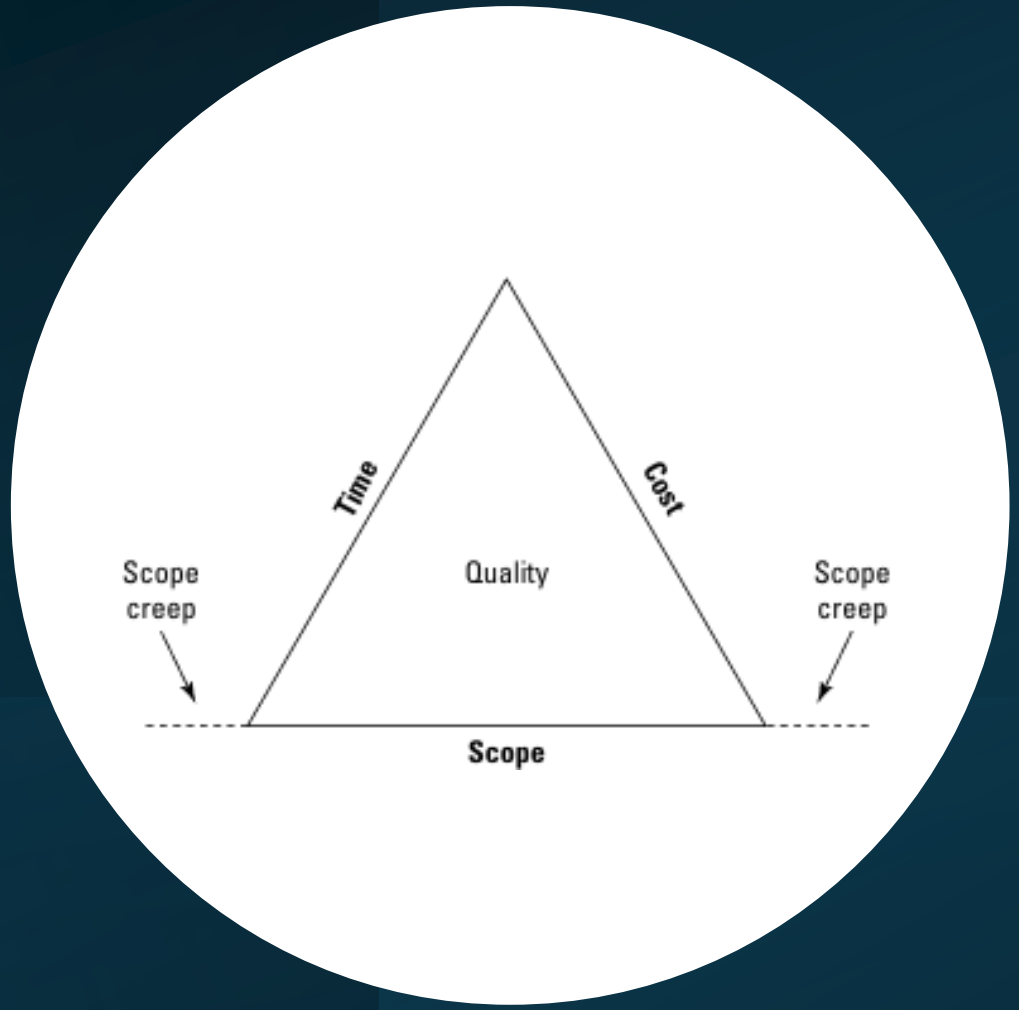
- Cost constraints are easy to identify because they deal with cash money.
- Your costs include computers and languages to code in, labor, and anything else you need to buy in order to get the job done.
- Projects almost always cost somebody something. Be sure to factor in hidden costs for labor, resources, computers, pizza, celebrations, training, and more.

Managing the scope

- There are two scopes within project management:
- Product scope: The product scope describes, lists, and categorizes all the features and components of the finished deliverable. This is what the customers see in their minds' eye.
- Project scope: This is where you focus. The project scope is all the required work, and only the required work, to create the project deliverable. The project scope focuses on work, activities, and progress to achieve the product scope. The project scope must be protected from unapproved changes because it dictates what the project team will do and what the end result of the project will be.

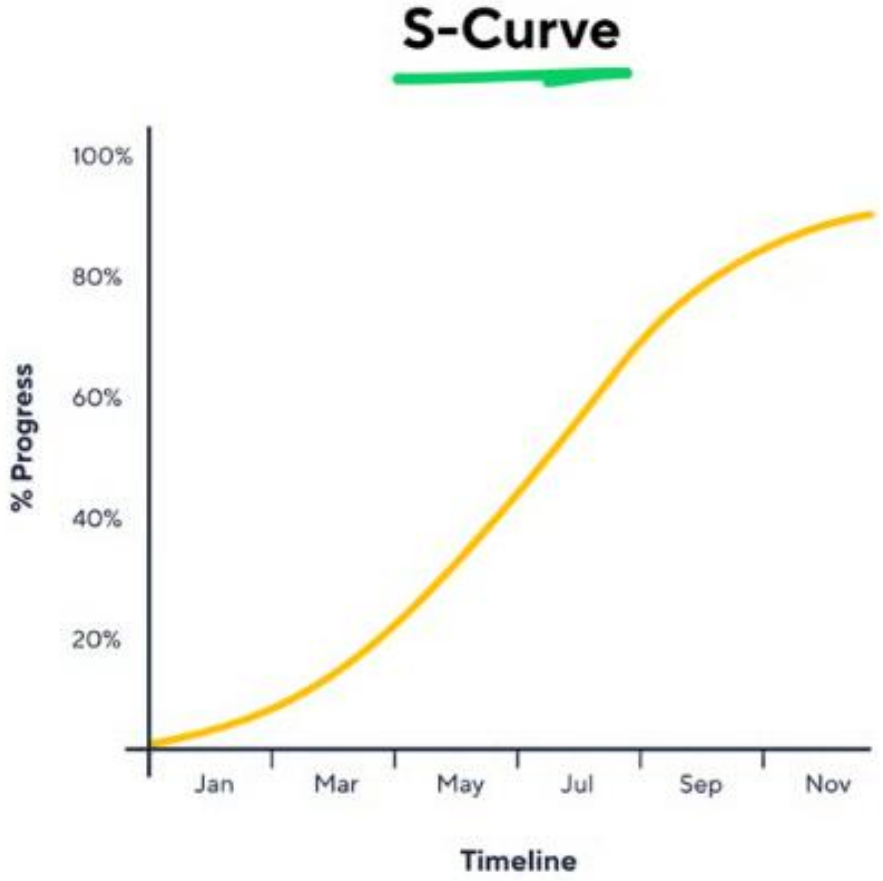
Controlling Scope Creep

Changes to the project scope can affect cost and time constraints, melting your Iron Triangle.



S-Curve

A S-curve is a visual tool that allows project managers to identify trends and make data-driven decisions to ensure projects stay on track. Project management is a complex process that requires careful planning, execution, and monitoring.



Common uses for the S-curve in project management

- Project planning and scheduling
- Budget management
- Resource allocation
- Performance tracking
- Risk management
- Stakeholder communication