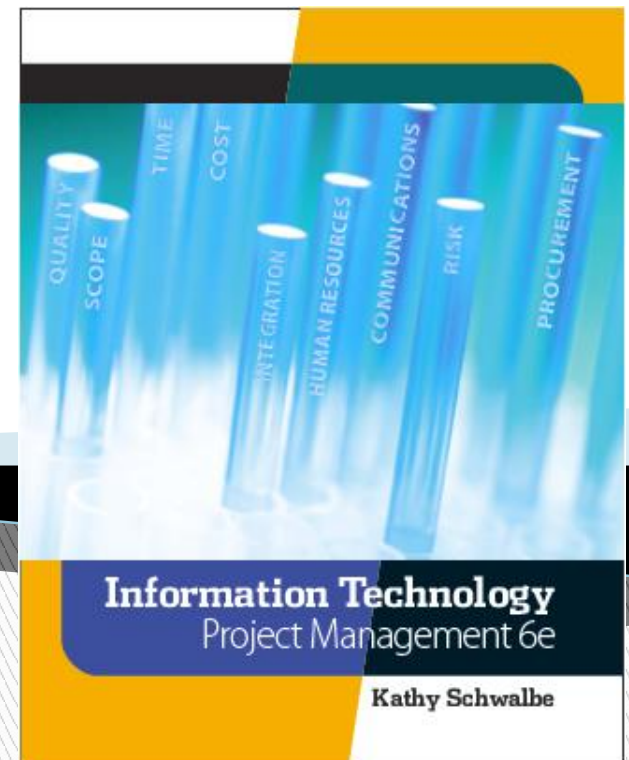


Chapter 1: Introduction to Project Management

**Information Technology Project
Management, Sixth Edition**

Note: See the text itself for full citations.



Announcements

- Aug 25th – Class Begins, Chapter 1 Slides
- Get the book: *Information Technology Project Management, Revised, 6th Edition* (includes
 - Kathy Schwalbe, ISBN-13: 9781111221751
 - Read the syllabus posted on BB
 - Chapter 1 slides posted
 - Teams (I will pick) for the final group project

Introduction

Prof. Thomas Licciardello



- 23+ years in the Technology & Cybersecurity industry
 - VP, CIO, CTO leadership roles held...
 - CISSP, MCSE, A+, ITIL certifications
- Pace University - BS Computer Science
- Columbia University - MS Executive Technology Management
- Drexel University – in progress Doctorate in Business Administration

I work full-time, teach part-time. 10 years at Baruch, also taught at Pace, and Rider University.....

My goal is to bring classroom content and corporate experiences together, to give you a well-rounded view of life in the workplace.....

What this course is about!

- ❑ Information Technology Project Design and Management is the CIS capstone project course for the CIS major wherein you will apply concepts and techniques from prior course work, to design, develop, and create an implementable application for a working information system of an actual business.
- ❑ **The course focuses students to the fundamentals of IT project management required for the successful implementation of IT-based systems.**
- ❑ The course presents tools and technologies for project definition, work breakdown, estimating, planning and scheduling resources as well as monitoring and control of project execution.
- ❑ **Students utilize knowledge gained from prior coursework, and work in groups to design and manage an Information Technology project.**
- ❑ We'll meet on-line, in person, and in team settings when needed.
- ❑ We'll take advantage of “team independent” study (towards your final project).

Your main deliverables!

- ❑ Get to know your team - *I will distribute*
- ❑ Pick your project idea
- ❑ Submit it for approval
- ❑ Start work on your project idea
- ❑ Submit case study/ assignments as assigned
- ❑ Do an initial team presentation – status check
- ❑ Take a midterm
- ❑ Develop your working prototype
- ❑ Present your final report and demo your product!
- ❑ Take a final

Chapter 1 Learning Objectives

- ❑ Understand the growing need for better project management
- ❑ Explain what a project is, provide examples of information technology projects
- ❑ Describe project management and discuss key elements of the project management framework, including project stakeholders, the project management knowledge areas, common tools and techniques, and project success

Learning Objectives (continued)

- ❑ Discuss the relationship between **project, program, and portfolio** management and the contributions they each make to enterprise success
- ❑ Understand the **role of the project manager** by describing what project managers do, what skills they need, and what the career field is like for information technology project managers

Introduction (continued)

- Many organizations today have a new or renewed interest in project management
- Computer hardware, software, networks, and the use of interdisciplinary and global work teams have radically changed the work environment – **more complex**
- The world as a whole spends nearly \$10 trillion of its \$40.7 trillion gross product on projects of all kinds
- More than 16 million people regard project management as their profession

Why be a Project Manager?

- Total global spending on technology goods, services, and staff was projected to reach \$3.4 trillion in 2018, an 8 percent increase from 2017
- In the U.S. the size of the IT workforce topped 4 million workers in 2008, **today its around 15 Million**
- In 2018 the total compensation for the average senior project manager in U.S. dollars was \$120K per year in the United States,
- The number of people earning their Project Management Professional (PMP) certification continues to increase

Advantages of Using Formal Project Management

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

What Is a Project?

- ❑ A **project** is “a temporary endeavor undertaken to create a unique product, service, or result”
- ❑ Projects end when their objectives have been reached or the project has been terminated
- ❑ Projects can be large or small and take a short or long time to complete

Examples of IT Projects

- A technician replaces ten laptops for a small department
- A small software development team adds a new feature to an internal software application for the finance department
- A college campus upgrades its technology infrastructure to provide wireless Internet access across the whole campus

Project Attributes

❓ A project:

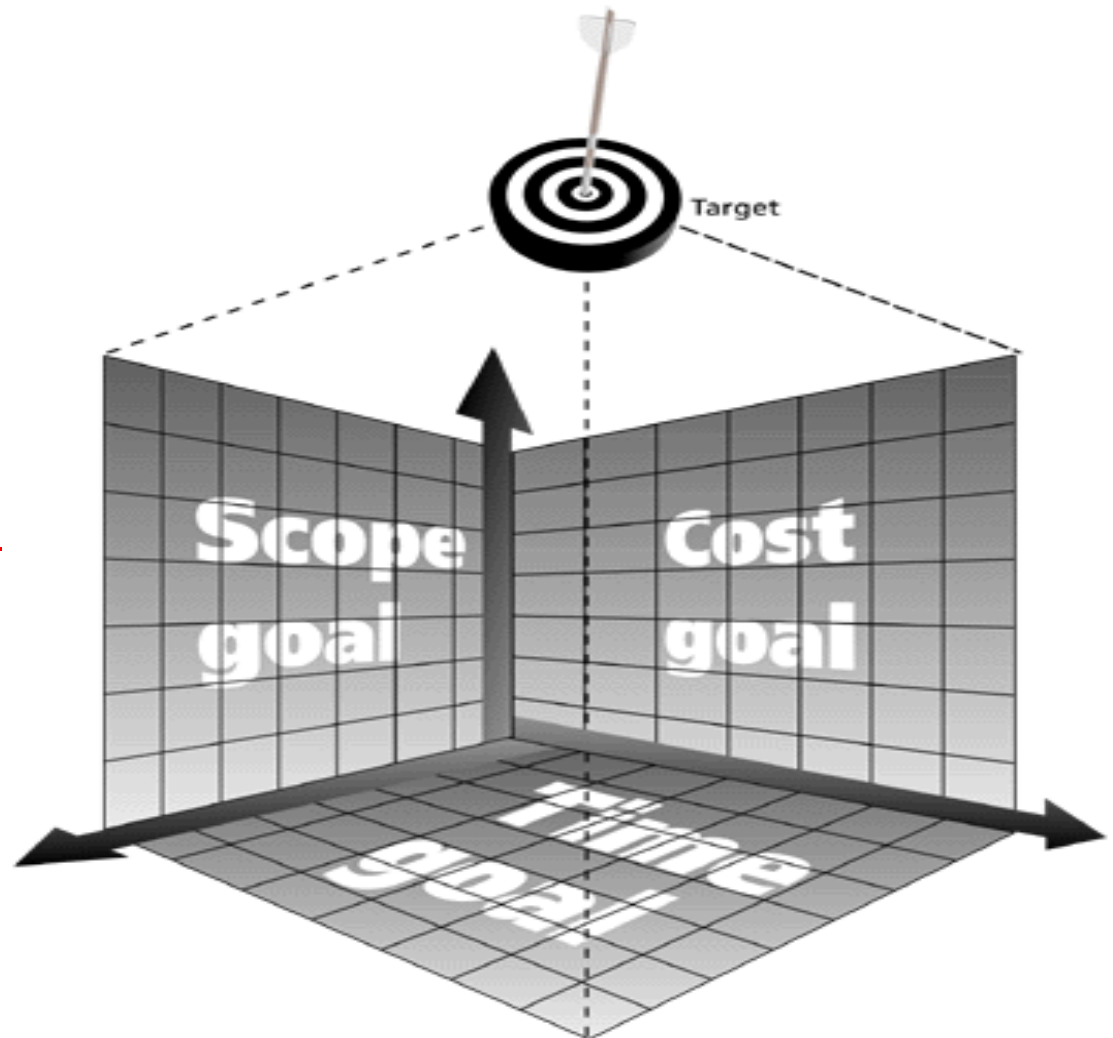
- Has a unique purpose
- Is temporary
- Is developed using elaboration - requirements
- Requires resources, often from various areas
- Should have a primary customer or sponsor
 - The **project sponsor** usually provides the direction and funding for the project
- **Projects do have varying degrees of uncertainty**

Project and Program Managers

- ❑ **Project managers** work with project sponsors, the project team, and other people involved in a project to meet project goals
- ❑ **Program:** group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually
- ❑ Program managers oversee programs; often act as bosses for project managers

Figure 1-1 The Triple Constraint of Project Management

Successful project management means managing effectively all three goals (**scope, time, and cost**) + *satisfying the project sponsor – WHY?*
- Quality?

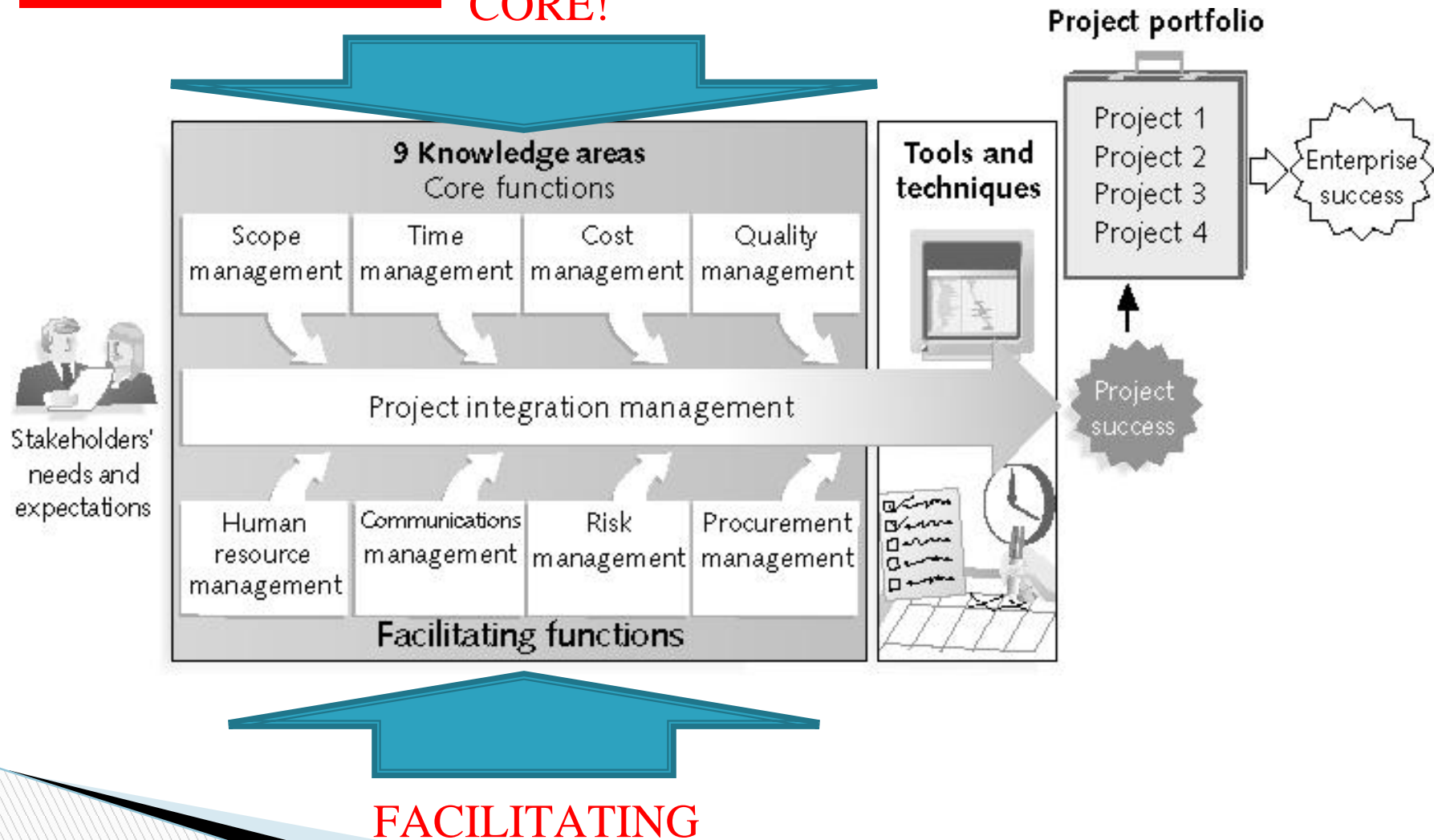


What is Project Management?

- ❑ **Project management** is “the application of knowledge, skills, tools and techniques to meet project requirements”
- ❑ Project managers strive to meet the **triple constraint** by balancing project **scope, time, and cost (budget) goals**

Figure 1-2 Project Management Framework

CORE!



FACILITATING

Project Stakeholders

■ **Stakeholders** are the people involved in or affected by project activities

■ Stakeholders include:

- The project sponsor
- The project manager
- The project team
- Support staff
- Customers
- Users
- Suppliers
- Opponents to the project

9 Project Management Knowledge Areas

- ❓ **Knowledge areas** describe the key competencies that project managers must develop
 - 4 core knowledge areas **lead to specific project objectives** (scope, time, cost, and quality)
 - 4 facilitating knowledge areas **are the means through which the project objectives are achieved** (human resources, communication, risk, and procurement management)
 - 1 knowledge area (project **integration** management) **affects and is affected by all** of the other knowledge areas
 - All knowledge areas are important!

Project Management Tools and Techniques

- **Project management tools and techniques assist** project managers and their teams in various aspects of project management
- Some specific ones include:
 - Project charter, scope statement, and WBS (scope)
 - Gantt charts, network diagrams, critical chain scheduling (time)
 - Cost estimates and earned value management (cost)

Project Success

■ There are several ways to define project success:

- The project met scope, time, and cost goals
 - What is this called?
- The project satisfied the customer/sponsor
- The results of the project met its main objective
 - making or saving a certain amount of money
 - providing a good return on investment
 - or simply making the sponsors happy

Table 1-2: What Helps Projects Succeed?*

1. Executive support
2. User involvement
3. Experienced project manager
4. Clear business objectives
5. Minimized scope
6. Standard software infrastructure
7. Firm basic requirements
8. Formal methodology
9. Reliable estimates
10. Other criteria, such as small milestones, proper planning, competent staff, and ownership

*The Standish Group, “Extreme CHAOS,”

What the Winners Do...

- Recent research findings show that companies that excel in project delivery capability:
 - Use an integrated project management toolbox (use standard/advanced PM tools, lots of templates)
 - Grow project leaders, emphasizing business and soft skills
 - Develop a streamlined project delivery process
 - Measure project health using metrics, like customer satisfaction or return on investment

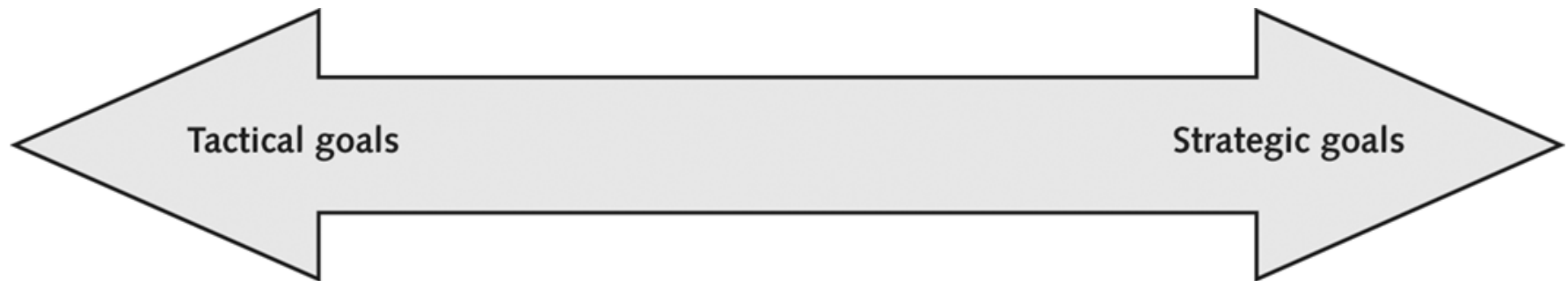
Program and Project Portfolio Management

- ❑ A **program** is “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually” (PMBOK® Guide, Fourth Edition, 2008, p. 9)
- ❑ A **program manager** provides leadership and direction for the project managers heading the projects within the program
- ❑ Examples of common programs in the IT field include infrastructure, applications development, and user support

Project Portfolio Management

- As part of **project portfolio management**, organizations **group and manage projects and programs** as a portfolio of investments that contribute to the entire enterprise's success
- **Portfolio managers** help their organizations make wise investment decisions by helping to select and analyze projects from a strategic perspective

Figure 1-3. Project Management Compared to Project Portfolio Management



Project management

- Are we carrying out projects well?
- Are projects on time and on budget?
- Do project stakeholders know what they should be doing?

Project portfolio management

- Are we working on the right projects?
- Are we investing in the right areas?
- Do we have the right resources to be competitive?

Best Practice

- ❑ A **best practice** is “an optimal way recognized by industry to achieve a stated goal or objective”*
- ❑ Robert Butrick *suggests that organizations* need to follow basic principles of project management,
 - Make sure your projects are driven by your strategy; be able to demonstrate how each project you undertake fits your business strategy, and screen out unwanted projects as soon as possible
 - Engage your stakeholders; ignoring stakeholders often leads to project failure; be sure to engage stakeholders at all stages of a project, and encourage teamwork and commitment at all times

*Project Management Institute, *Organizational Project Management Maturity Model (OPM3) Knowledge Foundation* (2003), p. 13.

Figure 1-4. Sample Project Portfolio Approach

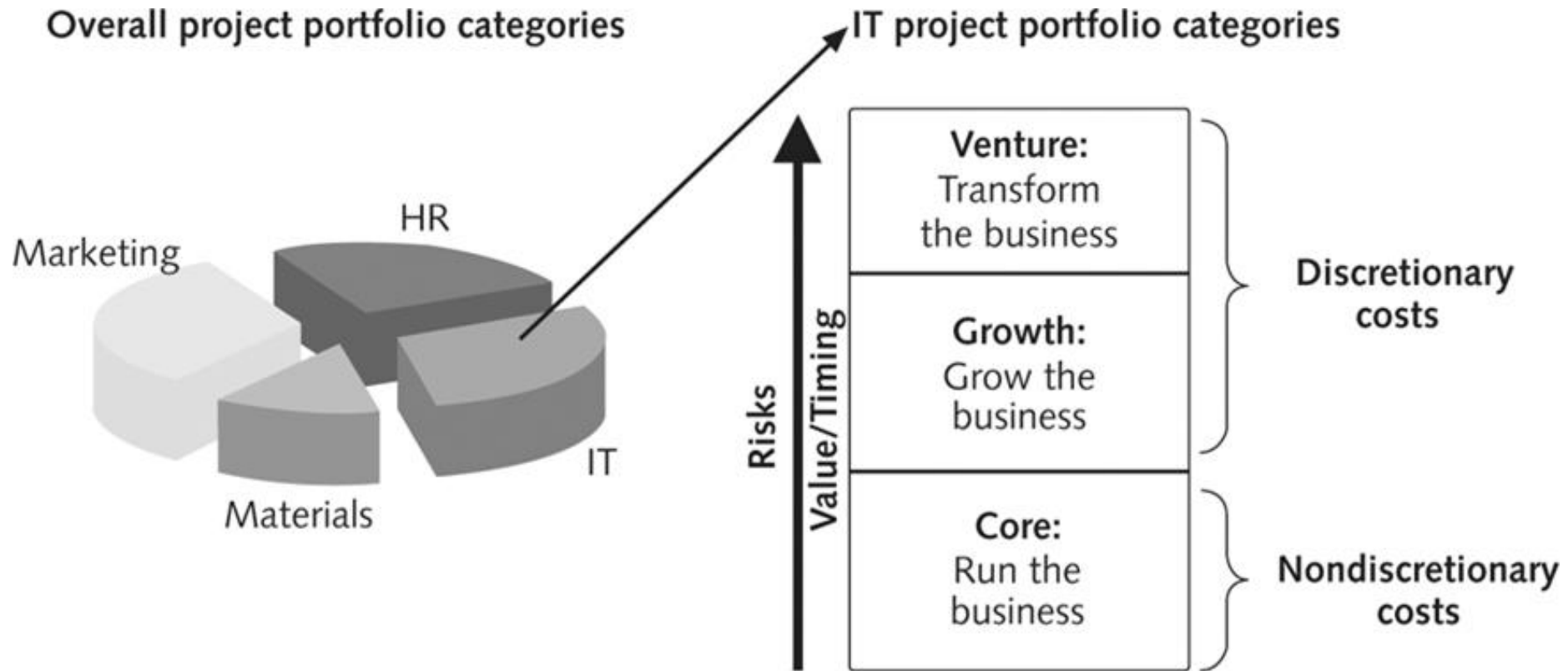
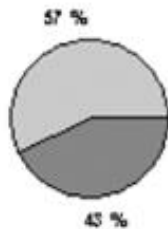


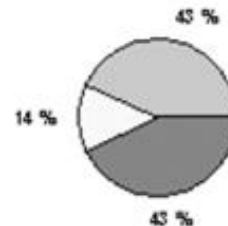
Figure 1-5. Sample Project Portfolio Management Screen Showing Project Health

PLANVIEW

Project Health (Effort Based)



Schedule Variance	Project Count
On Target	4
In Trouble	3



Cost Variance	Project Count
On Target	3
At Risk	1
In Trouble	3

Work Id	Project	% Complete	Schedule Variance	Cost Variance	Budget Variance	Risk Pct
0000051	Upgrade Sales Staff Laptop PC's	100.0 %	✓ 0.0	▲ -74.0	▲ -74.0	✓ .
CAW-035	CRM Website	75.8 %	✓ 8.0	✓ 18.0	✓ 18.0	● 39.7 %
CW-2002	MyMystic.com Customer Website	97.0 %	● -120.0	● -343.0	● -263.0	✓ .
PARMS-0	PARMS Implementation	50.4 %	● -440.0	● -192.0	✓ -8.0	✓ 3.9 %
POS-2002	PlanView and SAP Financial Integration	98.6 %	✓ 0.0	● -221.0	● -221.0	✓ .
SSR-012	Strategic Systems Review	0.0 %	✓ 0.0	✓ 0.0	▲ -72.0	▲ 15.9 %
TAU-2002	Tax Accounting Update 2002	24.9 %	● -119.0	✓ -15.0	✓ 33.0	✓ 0

Suggested Skills for Project Managers

- Project managers need a wide variety of skills
- They should:
 - Be comfortable with change
 - Understand the organizations they work in and with
 - Be able to lead teams to accomplish project goals

The Role of the Project Manager

- ❑ Job descriptions vary, but most include responsibilities like **planning**, **scheduling**, **coordinating**, and **working with people** "Together" to achieve project goals
- ❑ Remember that 97% of successful projects were led by experienced project managers, who can often help **influence** success factors

Suggested Skills for Project Managers

- ❑ The Project Management Body of Knowledge
- ❑ Application area knowledge, standards, and regulations
- ❑ Project environment knowledge
- ❑ General management knowledge and skills
- ❑ Soft skills or human relations skills

Table 1-3. Ten Most Important Skills and Competencies for Project Managers

1. People skills
2. Leadership
3. Listening
4. Integrity, ethical behavior, consistent
5. Strong at building trust
6. Verbal communication
7. Strong at building teams
8. Conflict resolution, conflict management
9. Critical thinking, problem solving
10. Understands, balances priorities

Different Skills Needed in Different Situations

- ❑ Large projects: leadership, relevant prior experience, planning, people skills, verbal communication, and team-building skills were most important
- ❑ High uncertainty projects: **risk management, expectation management**, leadership, people skills, and planning skills were most important
- ❑ Very novel projects: leadership, people skills, having vision and goals, self confidence, expectations management, and listening skills were most important

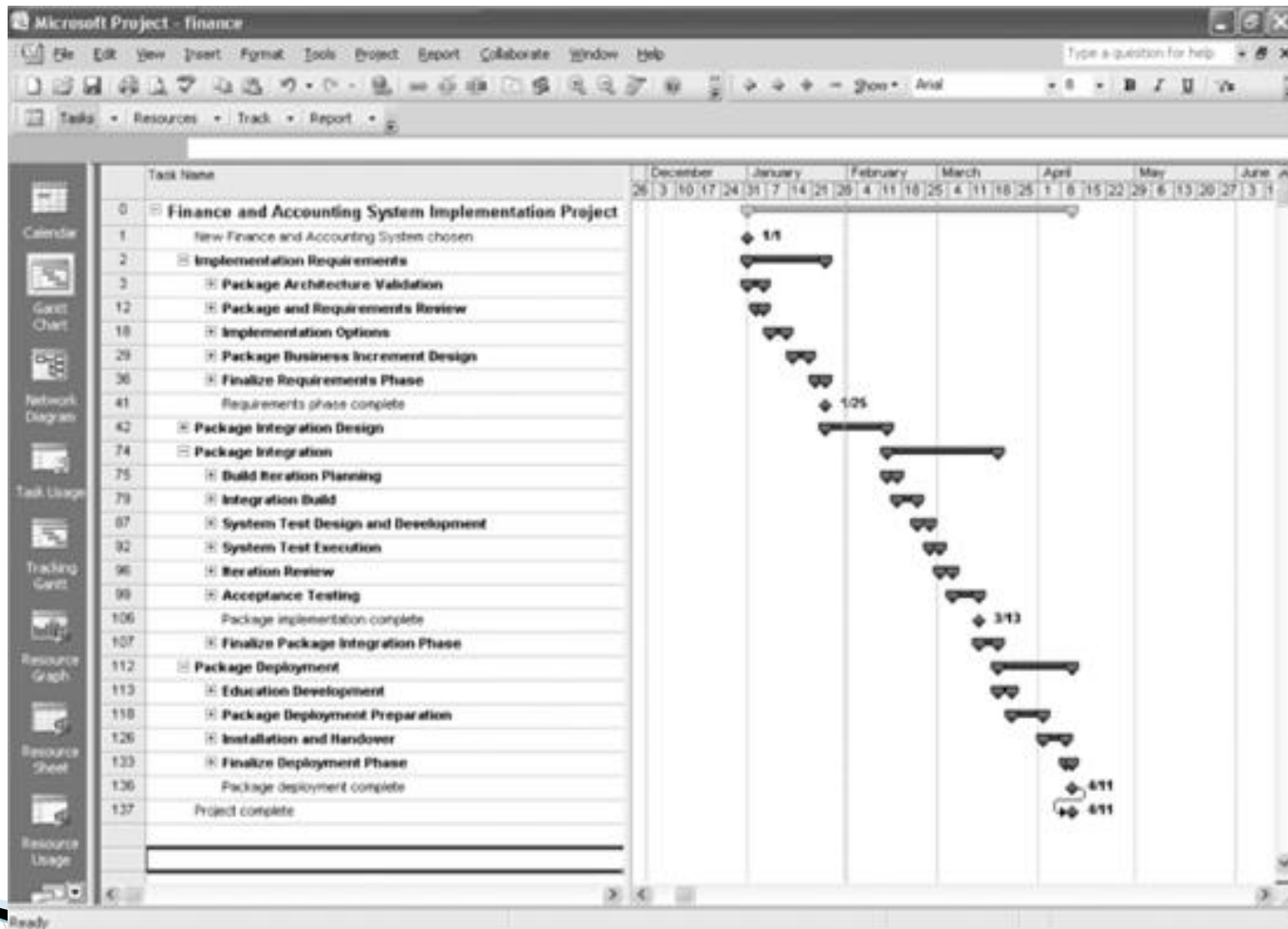
Importance of Leadership Skills

- ❑ Effective project managers provide leadership by example
- ❑ A **leader** focuses on long-term goals and big-picture objectives while inspiring people to reach those goals
- ❑ A **manager** deals with the day-to-day details of meeting specific goals
- ❑ Project managers often **take on the role of both leader and manager**

The Project Management Profession

- The profession of project management is growing at a very rapid pace
- It is helpful to understand the history of the field, the role of professional societies like the Project Management Institute, and the growth in project management software

Figure 1-6. Sample Gantt Chart Created with Project 2007



The Project Management Institute

- ❑ The Project Management Institute (PMI) is an international professional society for project managers founded in 1969
- ❑ PMI has continued to attract and retain members, reporting 277,221 members worldwide by August 31, 2008
- ❑ There are specific interest groups in many areas, like engineering, financial services, health care, IT, etc.
- ❑ Project management research and certification programs continue to grow
- ❑ Students can join PMI at a reduced fee (see www.pmi.org for details)

Project Management Certification

- ❑ PMI provides certification as a **Project Management Professional (PMP)**
- ❑ A PMP has documented sufficient project experience, agreed to follow a code of ethics, and passed the PMP exam
- ❑ The number of people earning PMP certification is increasing quickly
- ❑ PMI and other organizations offer additional certification programs (see Appendix B)

Ethics in Project Management

- ❑ **Ethics**, loosely defined, is a set of principles that guide our decision making based on personal values of what is “right” and “wrong”
- ❑ Project managers often face ethical dilemmas
- ❑ In order to earn PMP certification, applicants must agree to PMI’s Code of Ethics and Professional Conduct
- ❑ Several questions on the PMP exam are related to professional responsibility, including ethics

Project Management Software

- There are hundreds of different products to assist in performing project management. Three main categories of tools:
 - Low-end tools: handle single or smaller projects well, cost under \$200 per user
 - Midrange tools: handle multiple projects and users, cost \$200-600 per user, Project 2007 most popular
 - High-end tools: also called enterprise project management software, often licensed on a per-user basis, like VPMi Enterprise Online (www.vcsonline.com) – see front cover for trial version information
- See the Project Management Center Web site or Top Ten Reviews for links to many companies that provide project management software

Chapter Summary

- ❑ A project is a temporary endeavor undertaken to create a unique product, service, or result
- ❑ Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements
- ❑ A program is a group of related projects managed in a coordinated way
- ❑ Project portfolio management involves organizing and managing projects and programs as a portfolio of investments
- ❑ Project managers play a key role in helping projects and organizations succeed
- ❑ The project management profession continues to grow and mature