

Project Management for Engineers - ENGR 5410G

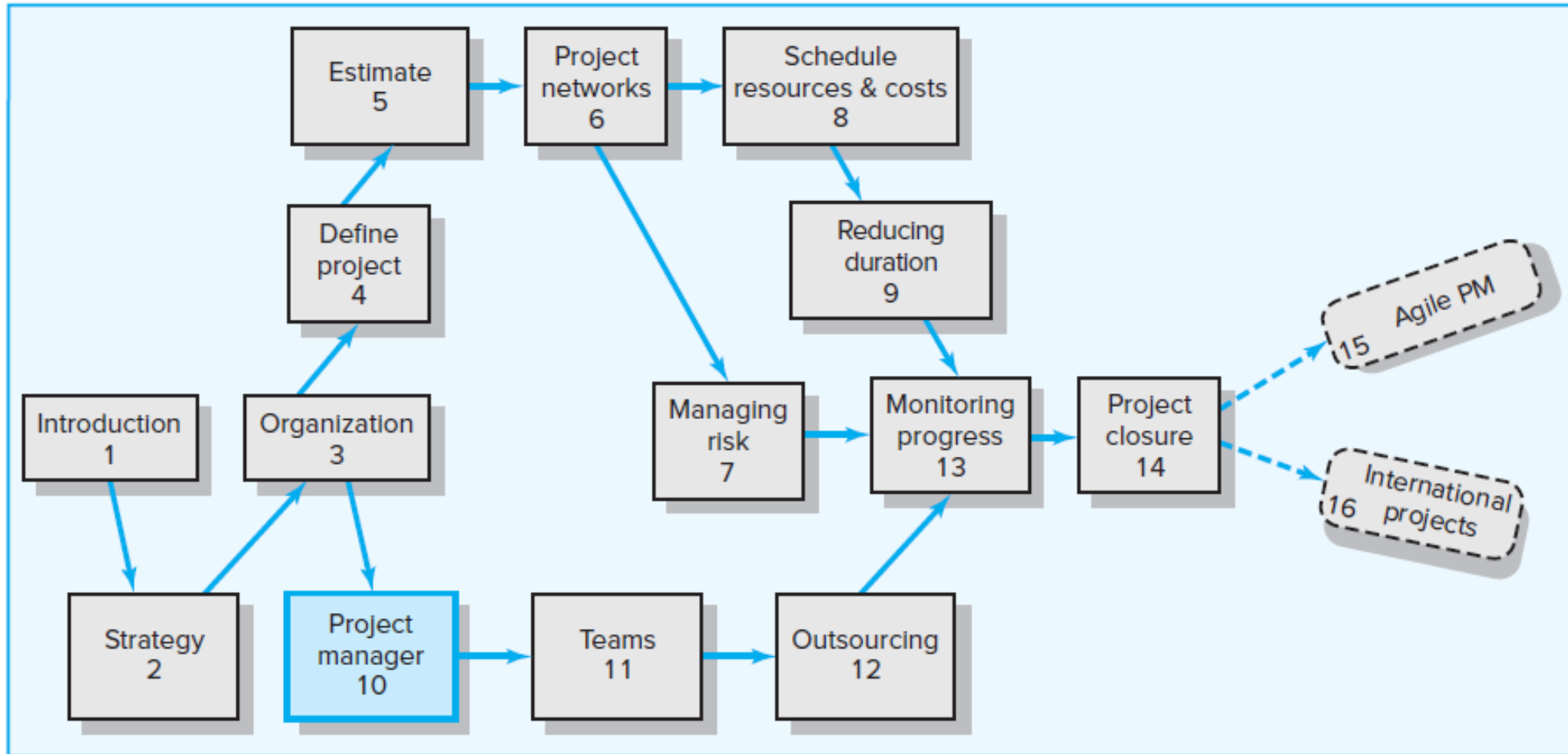
Fall 2024



Unit 8: Project Manager (ch 10) & Teams (11)



Where We Are Now



Learning Objectives

- 10-01 Understand the difference between managing and leading a project.
- 10-02 Understand the need to engage project stakeholders.
- 10-03 Identify and apply different “influence currencies” to build positive relations with others.
- 10-04 Create a stakeholder map and develop strategies for managing project dependencies.
- 10-05 Understand the need for a highly interactive management style on projects.
- 10-06 More effectively manage project expectations.
- 10-07 Develop strategies for managing upward relations.
- 10-08 Understand the importance of building trust and acting in an ethical manner while working on a project.
- 10-09 Identify the qualities of an effective project manager.



Chapter Outline

- 10.1 Managing versus Leading a Project
- 10.2 Engaging Project Stakeholders
- 10.3 Influence as Exchange
- 10.4 Social Network Building
- 10.5 Ethics and Project Management
- 10.6 Building Trust: The Key to Exercising Influence
- 10.7 Qualities of an Effective Project Manager

10.1 Managing versus Leading a Project

Managing—coping with complexity

- Formulate plans and objectives
- Monitor results
- Take corrective action
- Expedite activities
- Solve technical problems
- Serve as peacemaker
- Make tradeoffs among time, costs, and project scope

Leading—coping with change

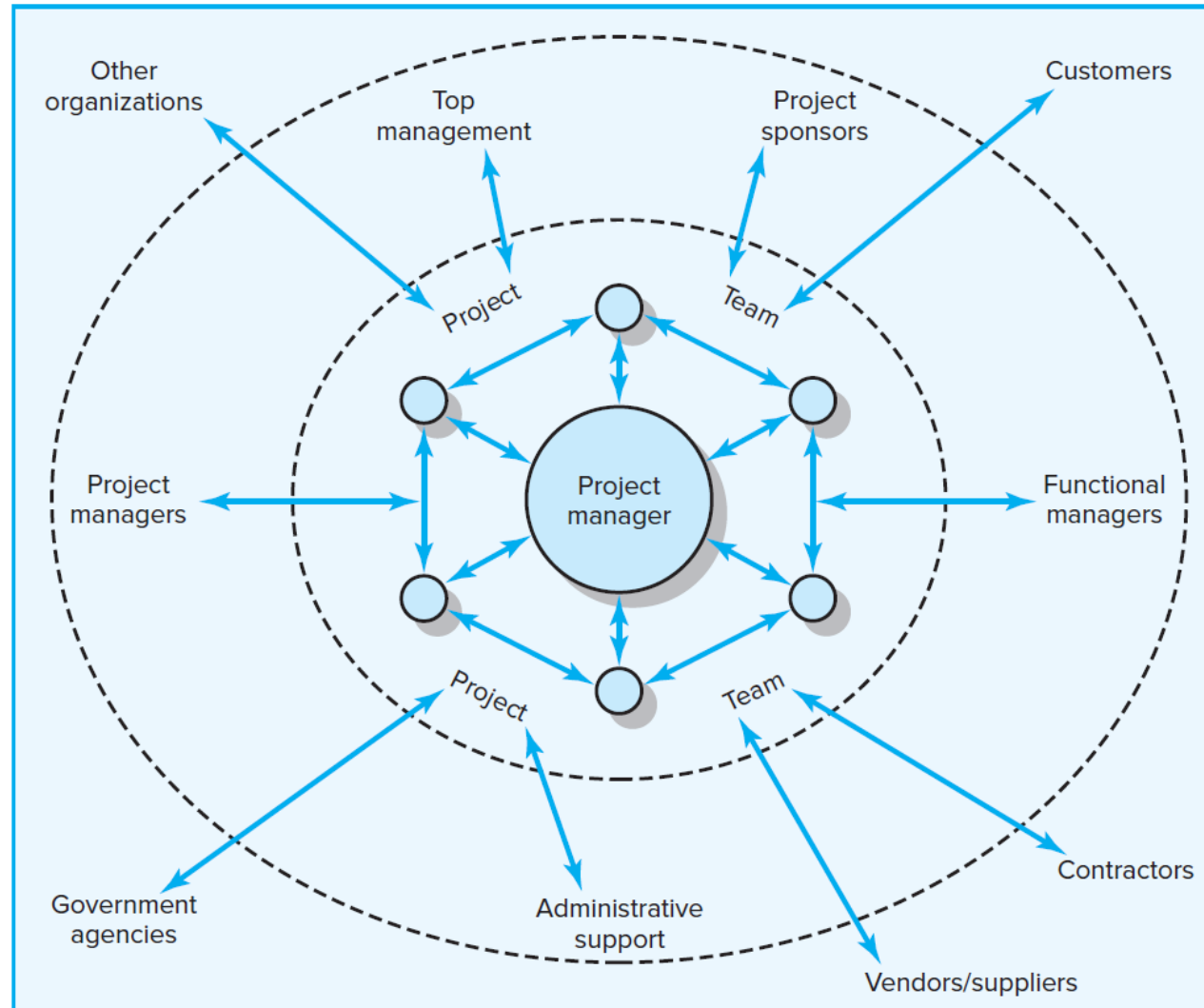
- Recognize the need to change to keep the project on track
- Initiate change
- Provide direction and motivation
- Innovate and adapt as necessary
- Integrate assigned resources

10.2 Engaging Project Stakeholders

- **Stakeholders** are people and organizations that are actively involved in the project or whose interests may be positively or negatively affected by the project.
- **Project Management Maxims**
 - You can't do it all and get it all done.
 - Projects usually involve a vast web of relationships.
 - Hands-on work is not the same as leading.
 - More pressure and more involvement can reduce your effectiveness as a leader.
 - What's important to you likely isn't as important to someone else.
 - Different groups have different stakes (responsibilities, agendas, and priorities) in the outcome of a project.
- Remember: Project management is tough, exciting, and rewarding—endeavor to persevere.



Network of Stakeholders



• **FIGURE 10.1**

10.3 Influence as Exchange

- **The Law of Reciprocity**
 - One good deed deserves another, and likewise one bad deed deserves another.
- **Quid pro Quo**
 - Mutual exchange of resources and services build relationships.
 - You scratch my back, I'll scratch yours.
- **Influence “Currencies”** (Cohen and Bradford)
 - Cooperative relationships are built on the exchange of organizational “currencies” (favors).

Commonly Traded Organizational Currencies

Task-related currencies

Resources	Lending or giving money, budget increases, personnel, etc.
Assistance	Helping with existing projects or undertaking unwanted tasks.
Cooperation	Giving task support, providing quicker response time, or aiding implementation.
Information	Providing organizational as well as technical knowledge.

Position-related currencies

Advancement	Giving a task or assignment that can result in promotion.
Recognition	Acknowledging effort, accomplishments, or abilities.
Visibility	Providing a chance to be known by higher-ups or significant others in the organization.
Network/contacts	Providing opportunities for linking with others.

Inspiration-related currencies

Vision	Being involved in a task that has larger significance for the unit, organization, customer, or society.
Excellence	Having a chance to do important things really well.
Ethical correctness	Doing what is “right” by a higher standard than efficiency.

Relationship-related currencies

Acceptance	Providing closeness and friendship.
Personal support	Giving personal and emotional backing.
Understanding	Listening to others’ concerns and issues.

Personal-related currencies

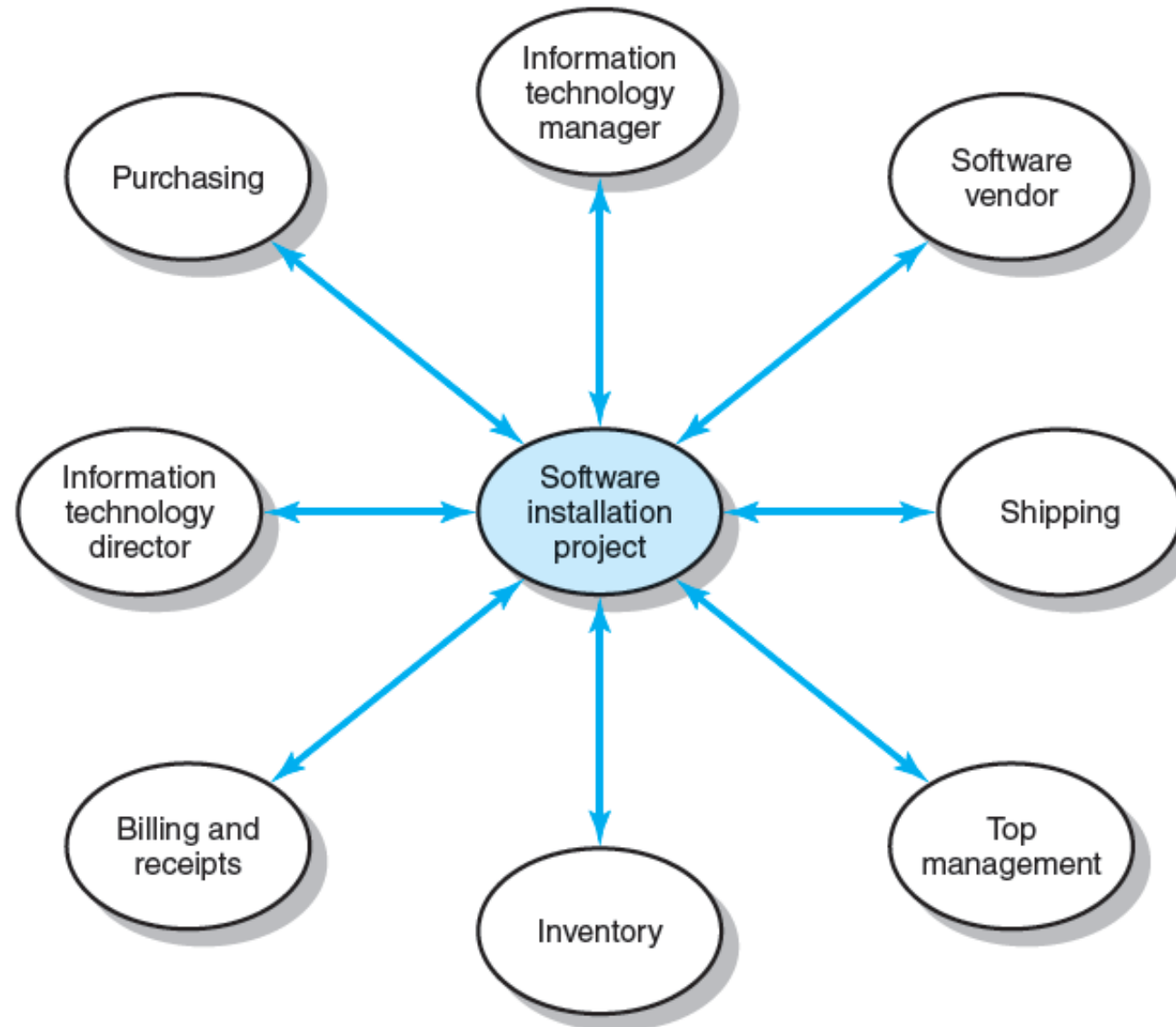
Challenge/learning	Sharing tasks that increase skills and abilities.
Ownership/involvement	Letting others have ownership and influence.
Gratitude	Expressing appreciation.

• **TABLE 10.1**

10.4 Social Network Building

- **Mapping Stakeholder Dependencies**
- Project team's perspective
 - Whose cooperation will we need?
 - Whose agreement or approval will we need?
 - Whose opposition would keep us from accomplishing the project?
- Stakeholder's perspective
 - What differences exist between the team and the people on whom the team depends?
 - How do the stakeholders view the project?
 - What is the current status of the relationship the team has with the stakeholders?
 - What sources of influence does the team have relative to the stakeholders on whom the team depends?

Stakeholder Map for Financial Software Installation Project



• FIGURE 10.2

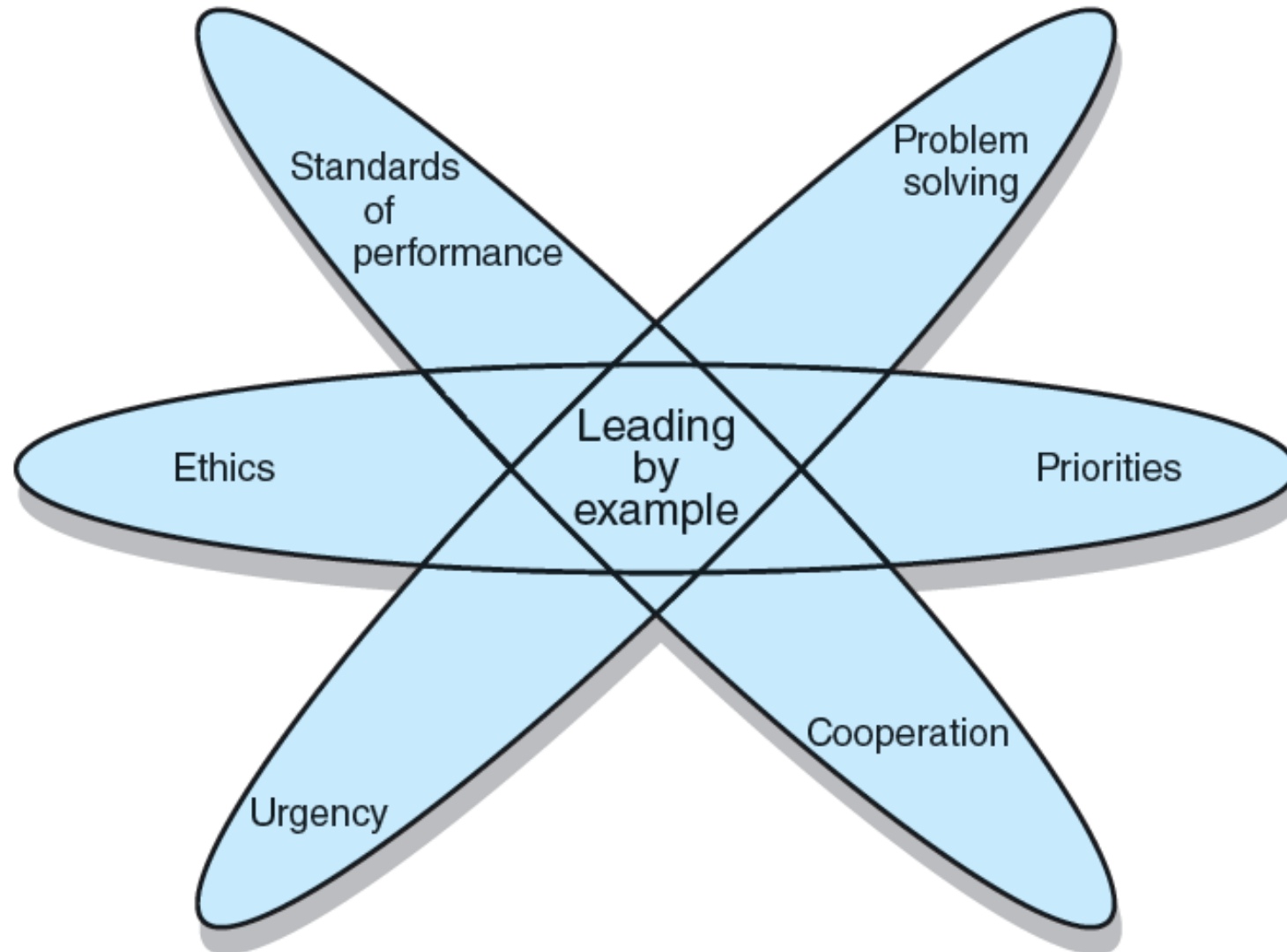
Management by Wandering Around (MBWA)

- **Management by Wandering Around (MBWA)** involves managers spending the majority of their time outside their offices in order to have face-to-face interactions with employees building cooperative relationships.
- Relationships should be built before they are needed.
- **Characteristics of Effective Project Managers**
 - Initiate contact with key stakeholders to keep abreast of developments
 - Anticipate potential problems
 - Provide encouragement
 - Reinforce the objectives and vision of the project
 - Intervene to resolve conflicts and prevent stalemates from occurring

Managing Upward Relations

- Project success is strongly affected by the degree to which a project has the support of top management. Top management must
 - Provide an appropriate budget
 - Be responsive to unexpected needs
 - Send a clear signal to others in the organization of the importance of the project and the need to cooperate
 - Rescind unreasonable demand
 - Provide additional resources
 - Recognize the accomplishments of team members

Leading by Example



• FIGURE 10.4

10.5 Ethics and Project Management

- **Ethical Dilemmas**—situations where it is difficult to determine whether conduct is right or wrong
 - Padding of cost and time estimations
 - Exaggerating pay-offs of project proposals
 - Falsely assuring customers that everything is on track
 - Being pressured to alter status reports
 - Falsifying cost accounts
 - Compromising safety standards to accelerate progress
 - Approving shoddy work

10.6 Building Trust: The Key to Exercising Influence

- **Trust**
 - Is an elusive concept.
 - Is a function of character (personal motives) and competence (skills necessary to realize motives).
 - Is sustained through frequent face-to-face contact.
- The core of highly effective people is a character ethic (Stephen Covey in Seven Habits of Highly Effective People).
 - Consistency—more predictable
 - Openness—more receptive to others
 - A sense of purpose—what is best for the organization and the project

10.7 Qualities of an Effective Project Manager

1. Effective communication skills
2. Systems thinking
3. Personal integrity
4. Proactivity
5. High emotional intelligence (EQ)
6. General business perspective
7. Effective time management
8. Optimism



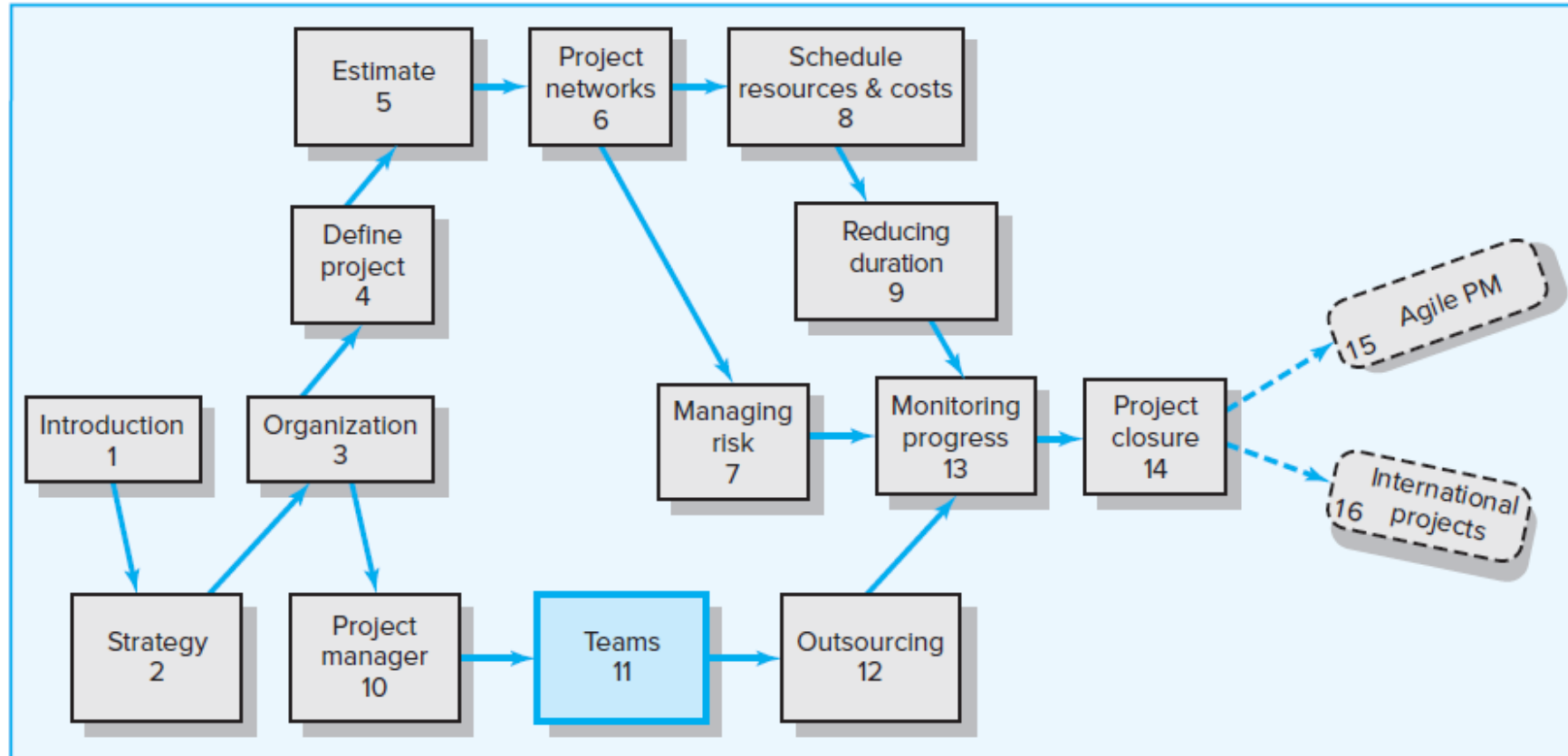
Contradictions of Project Management

- Innovate and maintain stability
- See the big picture while getting their hands dirty
- Encourage individuals but stress the team
- Be hands-off/hands-on
- Be flexible but firm
- Manage team versus organizational loyalties

Key Terms

- Emotional intelligence (EQ)
- Inspiration-related currencies
- Law of reciprocity
- Management by wandering around (MBWA)
- Personal-related currencies
- Position-related currencies
- Relationship-related currencies
- Social network building
- Stakeholders
- Systems thinking
- Task-related currencies

Where We Are Now





Learning Objectives

- 11-01 Identify key characteristics of a high-performance project team.
- 11-02 Distinguish the different stages of team development.
- 11-03 Understand the impact situational factors have on project team development.
- 11-04 Identify strategies for developing a high-performance project team.
- 11-05 Distinguish functional conflict from dysfunctional conflict and describe strategies for encouraging functional conflict and discouraging dysfunctional conflict.
- 11-06 Understand the challenges of managing virtual project teams.
- 11-07 Recognize the different pitfalls that can occur in a project team.



Chapter Outline

- 11.1 The Five-Stage Team Development Model
- 11.2 Situational Factors Affecting Team Development
- 11.3 Building High-Performance Project Teams
- 11.4 Managing Virtual Project Teams
- 11.5 Project Team Pitfalls

High-Performing Teams

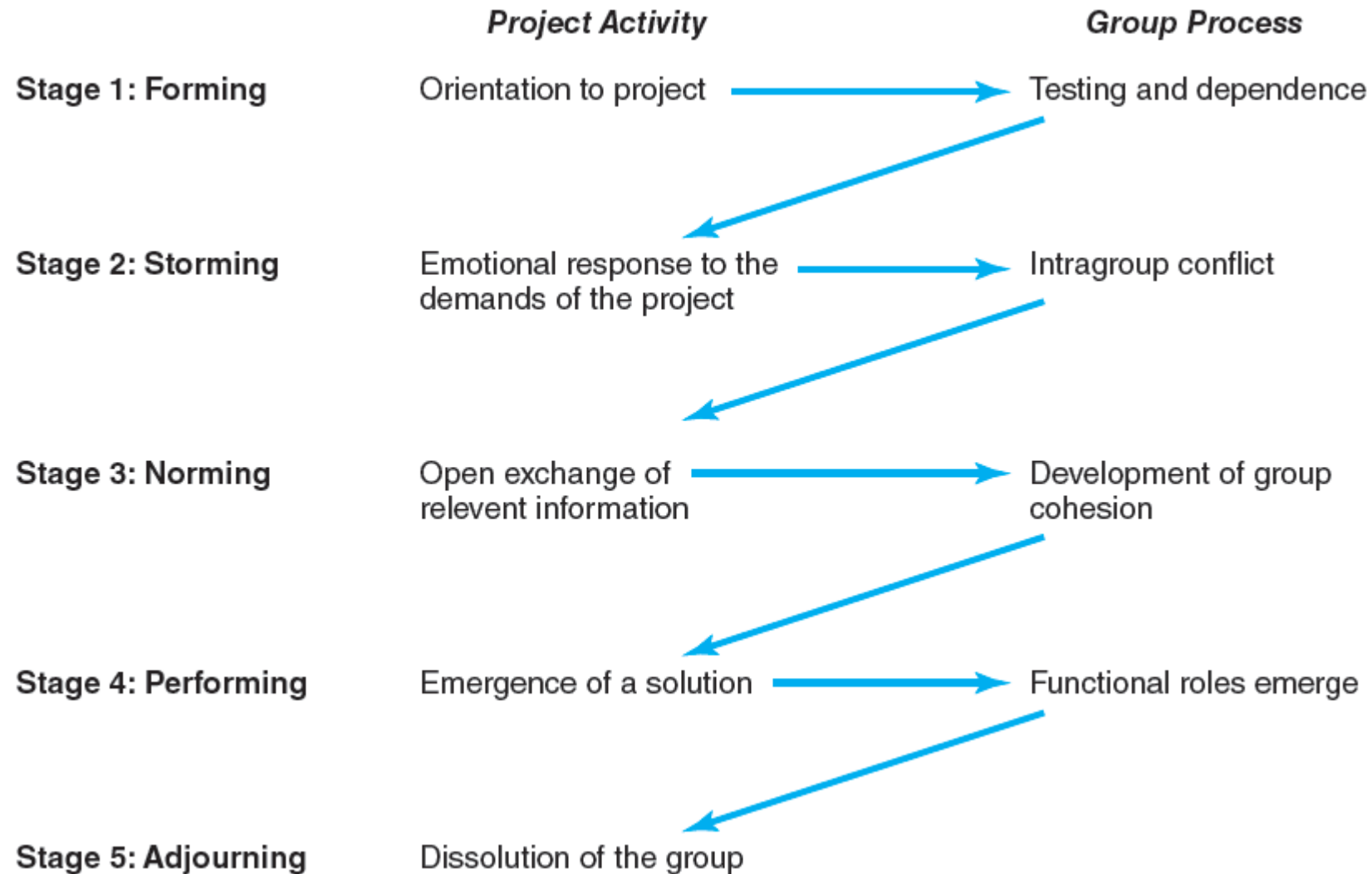
Synergy

- Positive synergy $1 + 1 + 1 + 1 + 1 = 10$
- Negative synergy $1 + 1 + 1 + 1 + 1 = 2$

Characteristics of High-Performing Teams

1. Share a sense of common purpose
2. Make effective use of individual talents and expertise
3. Balance role and share tasks
4. Exert energy toward problem solving
5. Accept differences of opinion and expression
6. Encourage risk taking and creativity
7. Set high personal performance standards
8. Identify source of both professional and personal growth

11.1 The Five-Stage Team Development Model

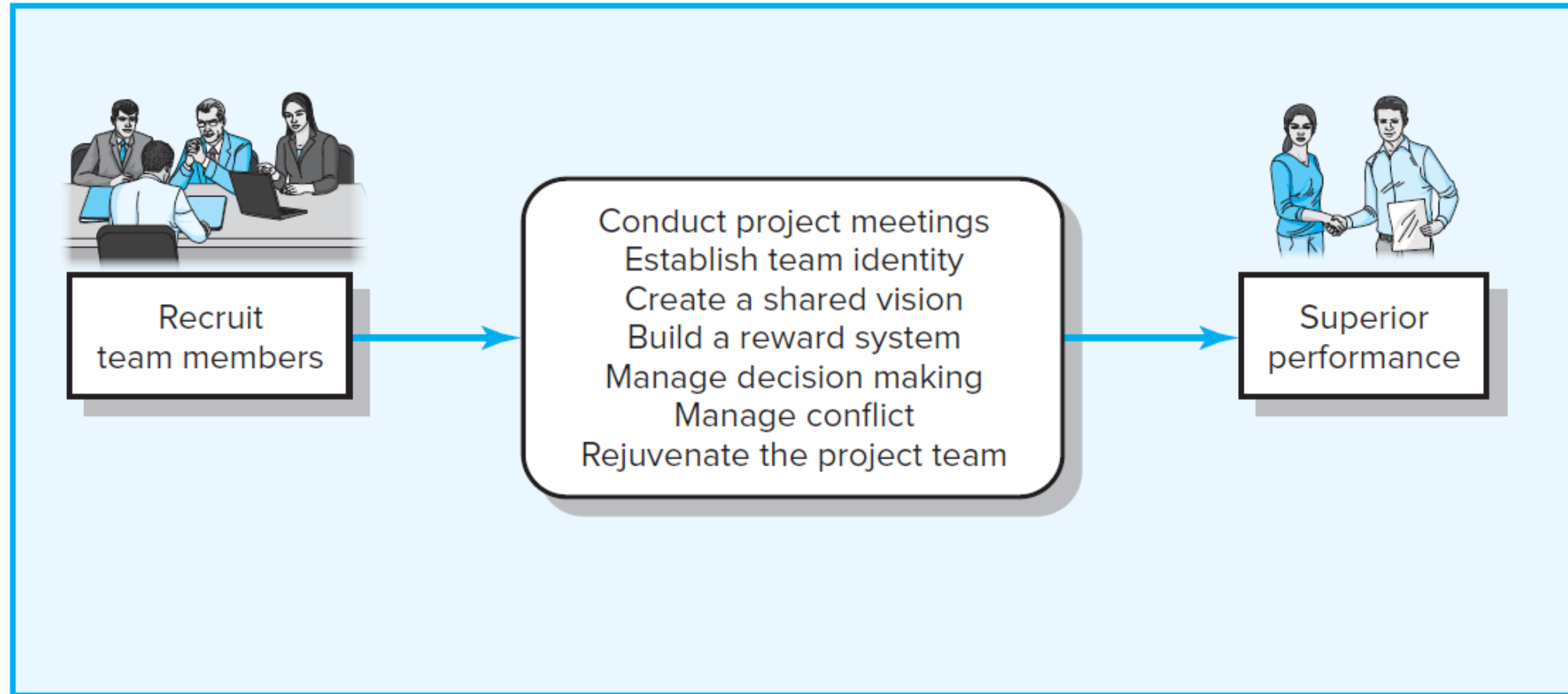


11.2 Situational Factors Affecting Team Development

Conditions Favoring Development of High-Performing Project Teams

- There are 10 or fewer members per team.
- Members volunteer to serve on the project team.
- Members serve on the project from beginning to end.
- Members are assigned to the project full time.
- Members are part of an organization culture that fosters cooperation and trust.
- Members report solely to the project manager.
- All relevant functional areas are represented on the team.
- The project involves a compelling objective.
- Members are located within conversational distance of each other.

11.3 Building High-Performance Project Teams





Recruiting Project Members

Factors affecting recruitment

- The importance of the project
- The management structure being used to complete the project

Considerations that need to be factored into the recruitment process

- Problem-solving ability
- Availability
- Technological expertise
- Credibility
- Political connections
- Ambition, initiative, and energy
- Familiarity



Conducting Project Meetings

- The first project team meeting—project kick-off meeting
- Establishing ground rules
- Planning decisions
- Tracking decisions
- Managing change decisions
- Relationship decisions
- Managing subsequent project meetings



Establishing Team Norms

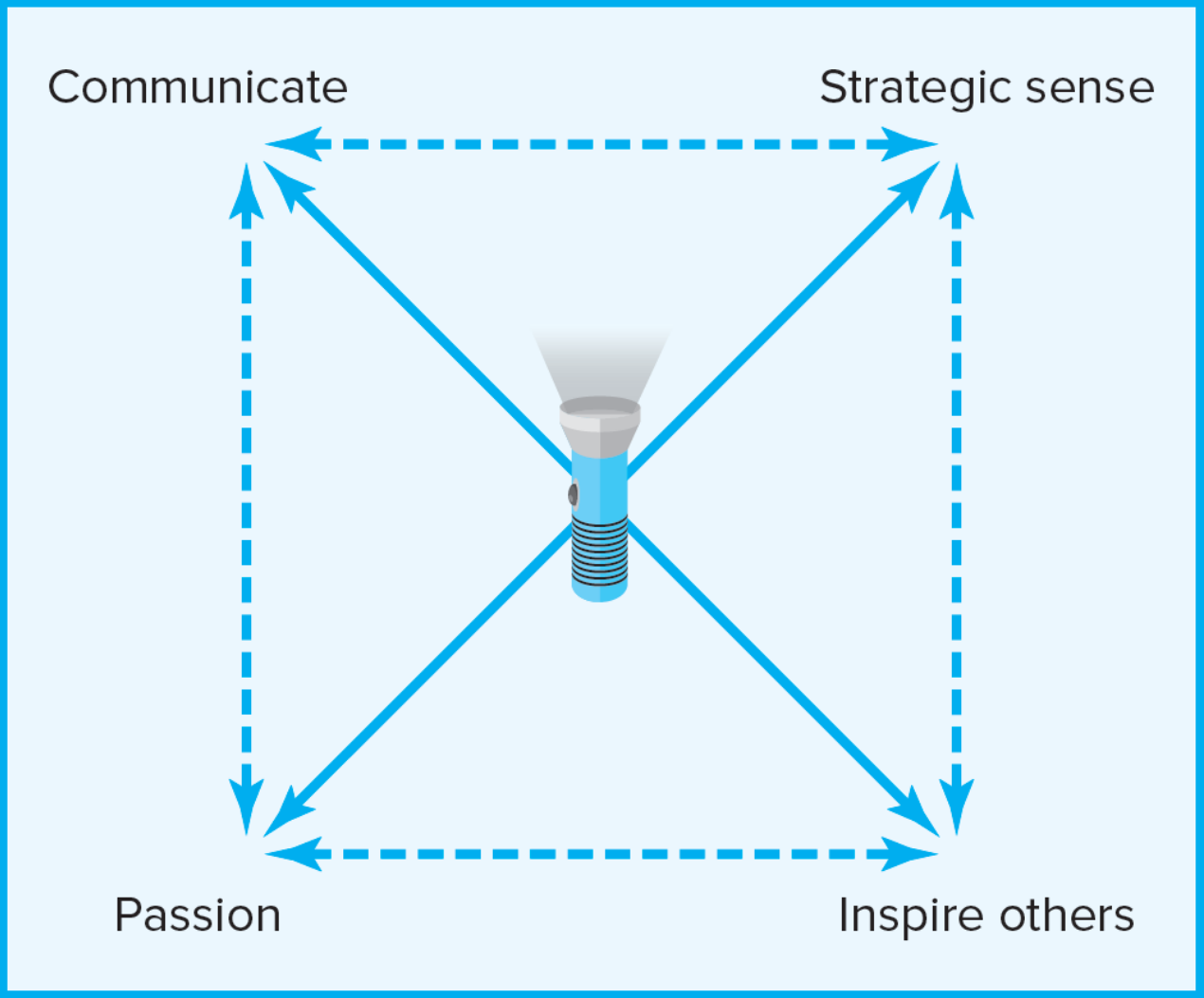
- Confidentiality is maintained; no information is shared outside the team unless all agree to it.
- It is acceptable to be in trouble, but it is not acceptable to surprise others. Tell others immediately when deadlines or milestones will not be reached.
- There is zero tolerance for bulling a way through a problem or an issue.
- Agree to disagree, but when a decision has been made, regardless of personal feelings, move forward.
- Respect outsiders, and do not flaunt one's position on the project team.
- Hard work does not get in the way of having fun.



Establishing a Team Identity

- Effective use of meetings
- Co-location of team members
- Creation of project name
- Get the team to build or do something together early on
- Team rituals

Requirement for an Effective Project Vision





Managing Project Reward Systems

- The reward system encourages team performance and extra effort.
- Most project managers advocate the use of group rewards.
- To increase the value of rewards, rewards need to have lasting significance.
- Some project managers have to use negative reinforcement to motivate project performance.
- There are times when we need to reward individual performance. Examples of this kind of rewards include
 - Letter of recommendation
 - Public recognition for outstanding work
 - Job assignments
 - Flexibility



Orchestrating the Decision-Making Process

Facilitating group decision making involves four major steps.

1. Identifying problems
2. Generating alternatives
3. Reaching a decision
4. Following up

Managing Conflict within the Project

Encouraging Functional Conflict

- Functional conflict plays a critical role in obtaining a deeper understanding of the issues and coming up with the best decisions possible.
- Project managers can legitimize dissent within the team by
 - Designating someone to play the role of devil's advocate.
 - Asking the group to take 15 minutes to come up with all the reasons the team should not pursue a course of action.

Managing Dysfunctional Conflict

- Mediate the conflict
- Arbitrate the conflict
- Control the conflict
- Accept the conflict
- Eliminate the conflict

Sources of Conflict over the Project Life Cycle





Rejuvenating the Project Team

Informal Techniques

- Institute new rituals
- Show the team an inspiration movie
- Have the project sponsor give a pep talk

Formal Techniques

- Hire an external consultant to facilitate a team-building session to elevate team performance and clarify ownership (whether the team has direct influence over the issue) issues
- Link team-building activities with outdoor experience to provide an intense common experience that accelerate the social development of the team

11.4 Managing Virtual Project Teams

Two biggest challenges involved in managing a virtual project team are

1. Developing trust

- Hold a face-to-face meeting at the beginning and orchestrate the exchange of social information
- Set clear roles for each team member
- Form teams with people who have already worked effectively together on projects, if possible

2. Developing effective patterns of communication

- Don't let team members vanish
- Establish a code of conduct to avoid delays
- Establish clear norms and protocols for surfacing assumptions and conflicts
- Use electronic video technology to verify work
- Share the pain

24-Hour Global Clock

United States (East Coast)	Australia	Scotland	Comments
12 midnight	2 PM	5 AM	
1 AM	3 PM	6 AM	
2 AM	4 PM	7 AM	
3 AM	5 PM	8 AM	
4 AM	6 PM	9 AM	Australia handoff for off-shift review
5 AM	7 PM	10 AM	
6 AM	8 PM	11 AM	3-way conferencing window (primary)
7 AM	9 PM	12 noon	3-way conferencing window (primary)
8 AM	10 PM	1 PM	3-way conferencing window (primary)
9 AM	11 PM	2 PM	
10 AM	12 midnight	3 PM	
11AM	1 AM	4 PM	
12 noon	2 AM	5 PM	Scotland handoff for off-shift review
1 PM	3 AM	6 PM	
2 PM	4 AM	7 PM	
3 PM	5 AM	8 PM	
4 PM	6 AM	9 PM	3-way conferencing window (secondary)
5 PM	7 AM	10 PM	3-way conferencing window (secondary)
6 PM	8 AM	11 PM	U.S. handoff for off-shift review
7 PM	9 AM	12 midnight	
8 PM	10 AM	1 AM	
9 PM	11 AM	2 AM	
10 PM	12 noon	3 AM	
11 PM	1 PM	4 AM	
12 midnight	2PM	5 AM	

Prime time Secondary time Downtime



11.5 Project Team Pitfalls

- Groupthink
 - Illusion of invulnerability
 - Whitewash of critical thinking
 - Negative stereotypes of outsiders
 - Direct pressure
- Bureaucratic bypass syndrome
- Team spirit becomes team infatuation



Key Terms

Brainstorming

Dysfunctional conflict

Functional conflict

Groupthink

Nominal group technique (NGT)

Positive synergy

Project kick-off meeting

Project vision

Team building

Virtual project team



Any Questions!