Electronics and
Computer Science

UNIVERSITY OF
Southampton

Executing Projects

COMP6204: Software Project Management and Secure Development

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Learning Objectives

- List the processes and outputs of *project execution* when using a *predictive* approach to project management
- Discuss what is involved in directing and managing project work and managing project knowledge as part of project integration management, including the importance of producing promised deliverables, implementing solutions to issues, evaluating work performance data, preparing issue logs, requesting changes to a project, and managing lessons learned
- Explain the importance of creating quality reports, test and evaluation documents, and change requests as part of quality assurance
- Describe the executing processes performed as part of resource management—acquiring resources, developing the team, and managing the team

Learning Objectives

- Discuss important communications concepts, and describe the process of managing communications
- Describe the process of managing stakeholder engagement
- Understand the process of implementing risk responses
- Explain the process of conducting procurements and the need to effectively select sellers and create agreements
- Summarize leadership styles and project management principles that assist in executing projects
- Discuss unique aspects of executing agile/hybrid projects

Introduction

- Project execution is the most noticed process group
- Research shows that without a doubt, the main reason CEOs failed was poor execution; the same is true for project managers
- Recall that, in general, the majority of a project's time and budget is spent on project execution
- Many of the deliverables and outputs created in the other process groups are fairly similar from project to project, *but no two projects are ever executed in the exact same way* due to uncertainties and unique challenges
- Note: First part of this chapter focuses on managing the predictive Just-In-Time Training project and the last part focuses on the more agile GCHC project.

Executing Processes and Outputs

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project integration management	Direct and manage project work	Deliverables Work performance data Issue log Change requests Project management plan updates Project documents updates Organizational process assets updates
	Manage project knowledge	Lessons learned register Project management plan updates Organizational process assets updates
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Executing Processes and Outputs (continued)

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project communications management	Manage communications	Project communications Project management plan updates Project documents updates Organizational process assets updates
Project risk management	Implement risk responses	Change requests Project documents updates
Project procurement management	Conduct procurements	Selected sellers Agreements Change requests Project management plan updates Project documents updates Organizational process assets updates
Project stakeholder management	Manage stakeholder engagement	Change requests Project management plan updates Project documents updates Organizational process assets updates

Project Integration Management

- To direct and manage project stakeholders, project managers can follow several important practices:
  - Coordinate planning and execution
  - Develop and use soft skills ((for example, strong leadership, effective team building, strong communication, motivation, negotiation, conflict management, and problem solving)
  - Provide a supportive organizational culture.
  - Break the rules when needed
  - Capitalize on product, business, and application area knowledge
  - Use project execution tools and techniques
- Main outputs during execution are deliverables, work performance data, issue logs, change requests, project management plan updates, project documents updates, and organizational process assets updates

Deliverables

- Most project sponsors would say that the most important output of any project is its deliverables
- Recall that deliverables are products or services produced or provided as part of a project
- For the Just-In-Time Training project at Global Construction, key deliverables include:
  - Training materials and courses (instructor-led, Web-based, and DVD)
  - Deliverables related to developing and delivering those training materials and courses, such as surveys, design documents, prototypes, and meetings

Work Performance Data

- During project execution, project managers must collect, assess, and communicate work performance information
- Many project managers, like Kristin, use the "management by wandering around" (MBWA) approach, meaning they informally observe and talk to project team members, suppliers, and other stakeholders as much as possible
- Kristin also used formal communications, such as status reports, survey results, and course evaluations, to address work performance on the project
  - the project dashboard (which summarized key project metrics, as described in previous lectures

Sample Work Performance Data

- A common way to summarize work performance information is by using a milestone report
- Recall that a milestone is a significant event on a project, such as *completing a major deliverable* or awarding a major contract
- In addition to listing the milestones, the report lists the planned date for completion (in month/day format), the status, the person responsible for the milestone, and issues/comments

Sample Milestone Report for Reporting Work Performance Data

Milestone	Date	Status	Responsible	Issues/Comments
Researched existing training	8/13	Complete	Jamie (replaced by Abner)	Many basic courses available, but not much advanced/tailored training. (Note: Replaced Jamie with better candidate for project after Jamie completed this task)
Presented supplier management training survey results to steering committee	8/24	Complete	Kristin	Great feedback. Many people stressed the need to have instructor-led training and mentors for soft skills development
Meetings with potential partners	9/21	In progress	Kristin/ Contracting	May need more time for meetings

Issue Logs

- An *issue log* helps to document, monitor, and track issues that need to be resolved for effective work to take place.
- An *issue* is a matter under question or dispute that could impede project success.
- Issues can hurt team performance, so it is important to take action to resolve them.
- A critical issue is anything that prevents progress on scheduled activities.
  - If the activity is on the critical path, resolution is urgent. There should be an issue escalation process that ensures issue resolution action.

Sample issue log

Issue #	Issue Description	Impact on Project	Date Reported	Reported By	Assigned To	Priority (H/M/L)	Due Date	Status	Comments/ Follow-up
1	Key project team member is not working out	Can severely hurt project because Jamie is our supplier managemen t expert	Aug 2	Kristin	Kristin	H	Sep 2	Open	Working with Jamie and appropriate managers to find a replacement
2	IT staff that is performing survey is over allocated	Delaying the survey will delay the entire project because it is a critical task	Sep 26	Mohamed	Kristin	H	Aug 5	Closed	Paid overtime was approved
Etc.									

Change Requests

- Often, a number of requests for changes emerge during project execution
- Recall that a process for handling changes should be defined during project planning as part of the project management plan
- It is important during project execution to formally and informally request appropriate changes

Sample Change Request (partial)

Project Name: Just-In-Time Training Project

Date Request Submitted: September 22

Title of Change Request: Provide overtime to get survey results in time

Change Order Number: A200-17

Submitted by: Kristin Maur

Change Category:__Scope __Schedule _X_ Cost __Technology __Other

Description of change requested:

In order to avoid a schedule slip and have appropriate internal resources available, we are requesting the approval of paid overtime for creating and distributing the survey for the supplier management course.

Events that made this change necessary or desirable:

The IT person assigned to our project has several other important projects on-hand. If these tasks are delayed, the entire project will be delayed.

Justification for the change/why it is needed/desired to continue/complete the project:

We must send out and analyze the survey in a timely manner since we need the information to develop the first supplier management course and select an appropriate supplier.

Impact of the proposed change on:

Scope: None **Schedule:** None **Cost:** $550

Staffing: One IT person will work 10 hours of paid overtime basis over a period of several weeks.

Risk: Low. This person suggested the paid overtime and has successfully worked overtime in the past.

Other: None

Suggested implementation if the change request is approved: Include the overtime pay in the normal paycheck.

Implemented Solutions to Problems

- Of course, all project teams face numerous problems
- Some problems can be avoided by doing a good job of initiating, planning, or monitoring and controlling the project, but other problems cannot be avoided
- Some common problems encountered during project execution are described in this chapter, but project managers must be creative and flexible in dealing with problems that occur on their projects

Common Problems During Execution

- The project sponsor and/or other senior managers are not very supportive of the project.
- Project stakeholders, such as people who would use the products and services the project is attempting to create, are not sufficiently involved in project decision-making.
- The project manager is inexperienced in managing people, working in a particular organization, or understanding the application area of the project.
- The project objectives/scope are unclear.
- Estimates for time and cost goals are unreliable or unrealistic.
- Business needs/technology changes have impacted the project.
- People working on the project are incompetent or unmotivated.
- There are poor conflict-management procedures.
- Communications are poor.
- Suppliers are not delivering as promised.

Sample Implemented Solution to Problems

- Kristin Maur encountered several problems during execution, such as:
  - Incompetent or unmotivated people working on the project
  - Poor conflict-management procedures

Issues with Competence and Motivation

- Although Jamie was assigned to work on the Just-In-Time Training project from its start, she was on vacation for most of the first month and seemed uninterested in the project when she was around
- Kristin tried her best to motivate Jamie, but Jamie was simply not the right person for the project
- Kristin talked to Jamie directly (using the confrontation approach), and Jamie admitted that she would much rather deal directly with suppliers than work on this project
- Kristin replaced Jamie with someone more suitable

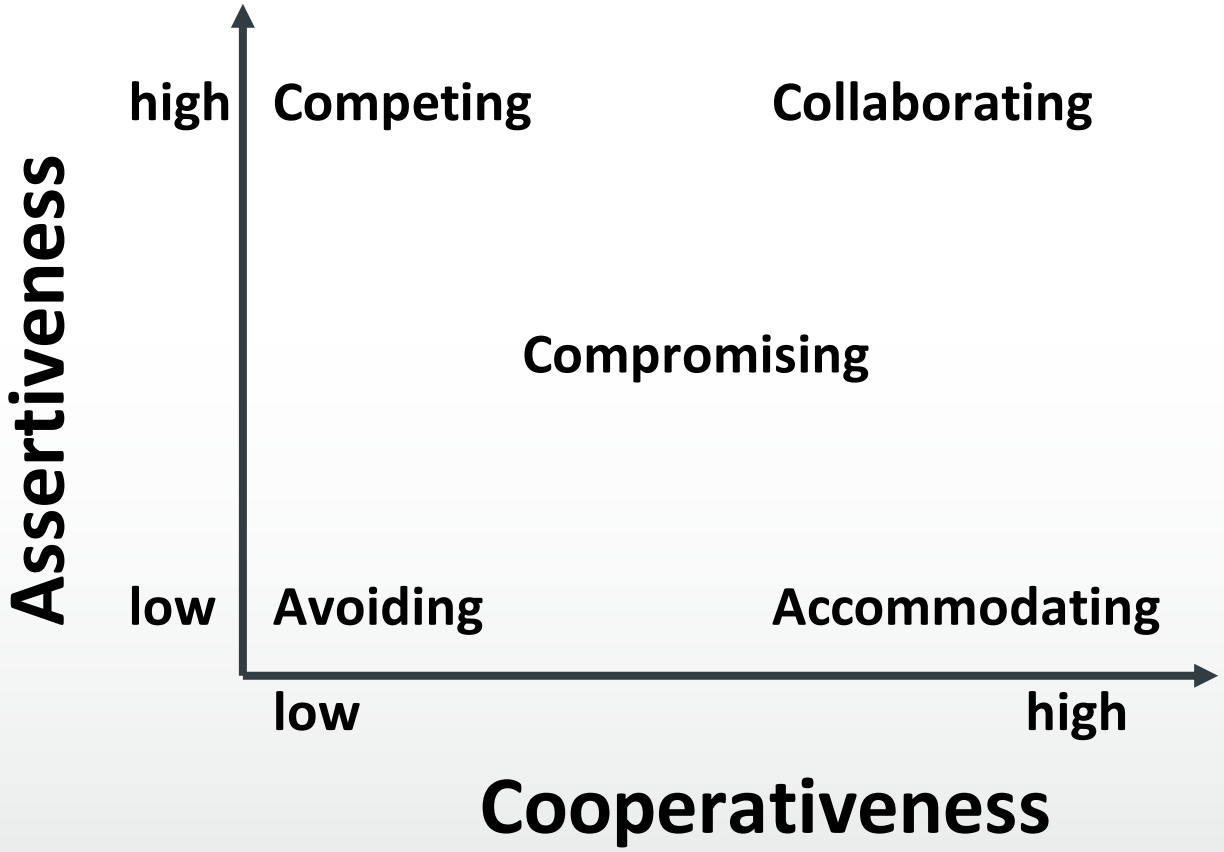
Poor Conflict Management

- Most large projects are high-stake endeavors that are highly visible within organizations
  - When the stakes are high, conflict is never far away.
  - Even small projects with low budgets have conflicts—it is a natural part of work and life in general
- Project managers should lead their teams in developing norms for dealing with various types of conflicts that might arise

Conflict Handling Modes

- Competing is *assertive* and *uncooperative*, when people pursue their own concerns at other people's expense.
- Accommodating is *unassertive* and *cooperative*, when people neglect their own concerns to satisfy the concerns of other people.
- Avoiding is *unassertive* and *uncooperative*, when people neither pursues their own concerns nor those of others by simply not dealing with the conflict.
- Collaborating is both *assertive* and *cooperative*, when people attempt to work with others to find some solution that fully satisfies their concerns.
- Compromising is *moderate* in both *assertiveness* and *cooperativeness*, where the objective is to find a mutually acceptable solution that partially satisfies both parties.

Conflict Handling Modes



More on Conflict

- Conflict can be *good*; it often produces important results, such as new ideas, better alternatives, and motivation to work harder and more collaboratively
- Project team members might become stagnant or develop groupthink—conformance to the values or ethical standards of a group—if there are no conflicting viewpoints on various aspects of a project
- Research suggests that:
  - *Task-related conflict*, which is derived from differences over team objectives and how to achieve them, often improves team performance
  - *Emotional conflict*, however, which stems from personality clashes and misunderstandings, often depresses team performance

What Went Wrong?

Groupthink can cause problems on projects. Forbes Coaches Council provided a list of ten negative effects of groupthink:

1. Common responses to threat, such as everyone becoming more risk averse under pressure
2. Limits and inclusion, where people feel safe yet closed-minded by not having diverse ideas.
3. Focusing only on what is known, which can cause critical information to be uncovered
4. The "corporate nod," preventing transparent and truthful conversions
5. Extinction, where the entire project is dissolved for not being able to address changing dynamics
6. Blind commitments to best practices, which can prevent taking new approaches when needed
7. Lack of engagement, causing some workers to feel unheard and underappreciated
8. Disasters, like the financial crisis caused by blind trust in financial institutions
9. Drowned-out voices, caused by the most vocal people drowning out potentially great ideas
10. Over confidence in your decision, because everyone supports it, even though they shouldn't.

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Managing Project Knowledge

- PMI added this new process to the PMBOK®Guide in 2017 to highlight the importance of managing project knowledge.
- Main output is a lessons learned register
- Two types of knowledge:
  1. Explicit knowledge: This type of knowledge can be easily explained using words, pictures, or numbers and is easy to communicate, store, and distribute.
     - Examples include information found in textbooks and encyclopedias as well as project documents and plans.

Managing Project Knowledge

- Second types of knowledge:

  2. Tacit knowledge: Unlike explicit knowledge, tacit knowledge, sometimes called informal knowledge, is difficult to express and is highly personal.

  – Examples include beliefs, insight, and experience.

  – It is often shared through conversations and interactions between people.

  – Many organizations set up programs like mentorships, communities of practice, or workshops to assist in passing on tacit knowledge.

Sample Lessons Learned Register

ID	Date identified	Owner	Name	Category	Situation	Recommendation
01	9/22	Kristin	Overtime	Cost	IT person was overbooked. Decided to pay overtime to finish survey work in time and not delay project end date.	Don't be afraid to suggest paid overtime, even though it's not used often at our organization.
02	10/1	Kim	Curriculum blog	Technology	Kim was having trouble getting inputs on specific requirements for curriculum, so she set up a blog and provided incentives for inputs.	Encourage people to be creative. Allow use of some of the budget for incentives related to producing that deliverable.

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Managing Quality

- Quality assurance includes all the activities related to satisfying the relevant quality standards for a project
- Another goal of quality assurance is continual quality improvement
- Key outputs of managing quality include a quality report, test and evaluation documents, change requests, project management plan updates, and project documents updates

Quality Improvement Tools and Techniques

1. Benchmarking generates ideas for quality improvements by *comparing* specific project practices or product characteristics to those of other projects or products within or outside of the organization itself (for example, *training costs per employee* and *course ratings* are benchmarks)
2. A quality audit is a structured review of specific quality management activities that helps identify *lessons learned*, which could *improve performance* on current or future projects

Quality Improvement Tools and Techniques

3. Process analysis involves analyzing how a process operates and determining improvements.
   - You can use a simple task board or kanban board to visually display work in columns labeled To Do, In Progress, and Done.
   - Cause-and-effect diagrams—also called *fishbone* diagrams (because their structure resembles a fishbone) or Ishikawa diagrams (named after their founder)—can assist in ensuring and improving quality by finding the root causes of quality problems

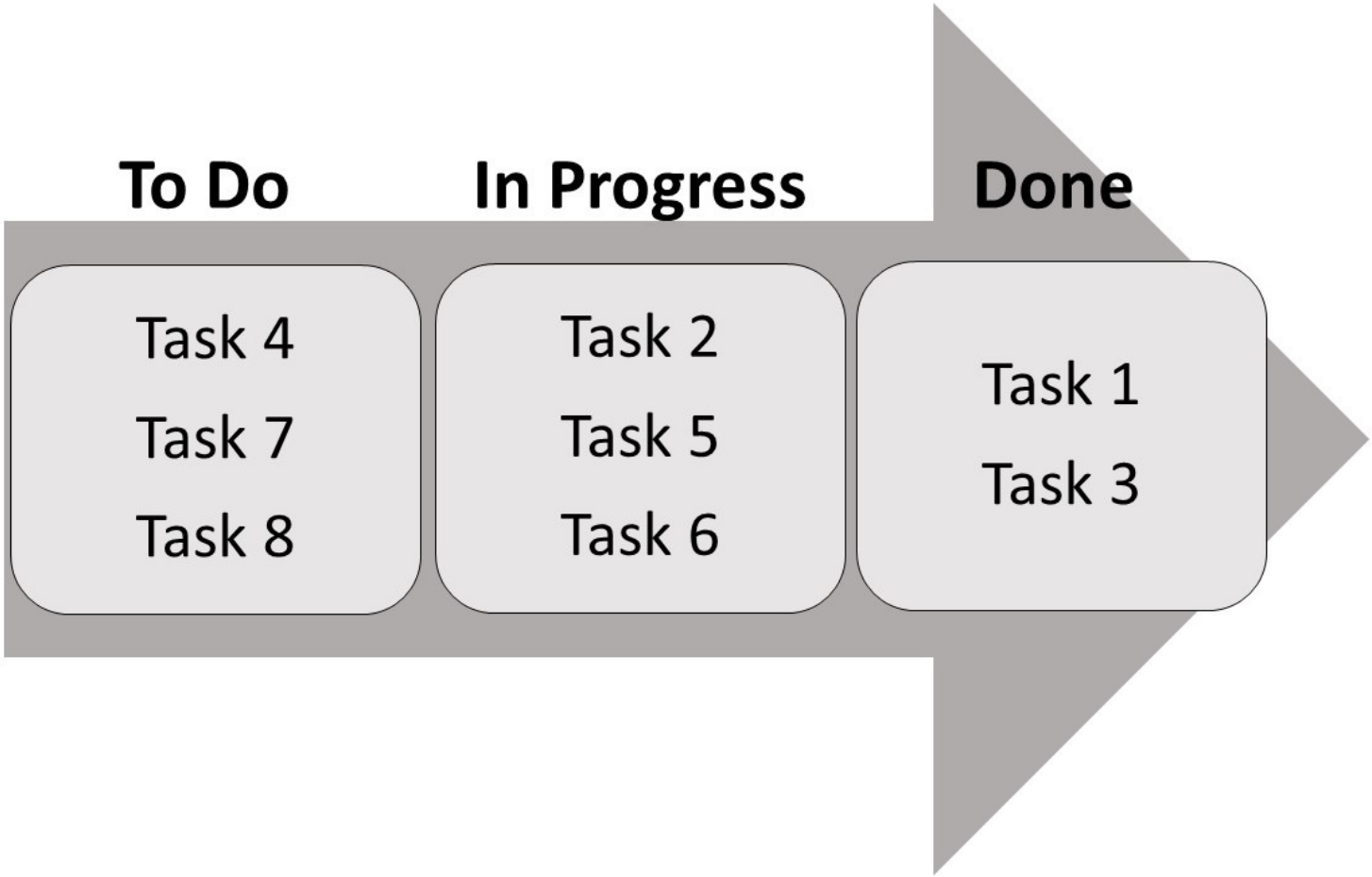
Best Practice

- In the late 1940s, Toyota engineers noticed that grocery store clerks restocked items by their store's inventory instead of their vendor's supply.
- Their "just-in-time" approach of ordering more items only when they were near sellout sparked the engineers to pioneer a new approach to engineering using a kanban system by matching inventory with demand to achieve better throughput. (The word kanban is Japanese for sign.)
- In 2005 David J. Anderson, a founder of the Agile movement and author of several books, visited Japan. While visiting Tokyo's Imperial Palace gardens, he realized that *kanban* was used at the gardens to manage the flow of visitors and that it could be applied to many processes, including software development.

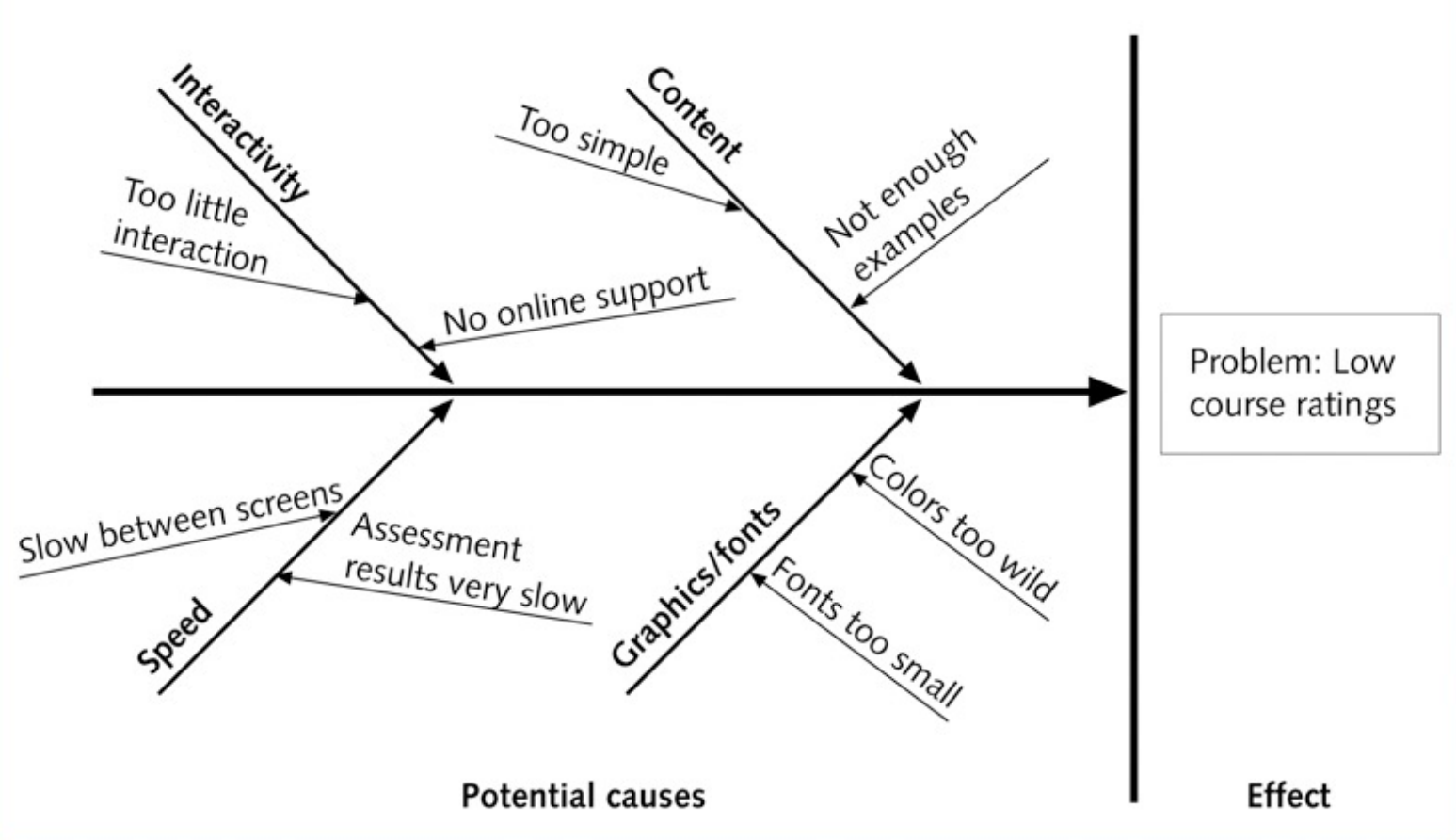
Best Practice – Kanban

- Kanban uses five core properties:
    1. Visual workflow
    2. Limit work-in-process
    3. Measure and manage flow
    4. Make process policies explicit
    5. Use models to recognize improvement opportunities

Sample Kanban Board



Sample Cause and Effect Diagram (fishbone)



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Project Resource Management

- Effective use of resources is crucial to project execution.
  - The main processes project managers perform include acquiring resources, developing the team, and managing the team.
- Key outputs include physical resource assignments, project team assignments, resource calendars, team performance assessment, change requests, and updates to the project management plan, enterprise environmental factors, and organizational process assets.
- Resource calendars are simply calendars for each resource showing work assignment dates.

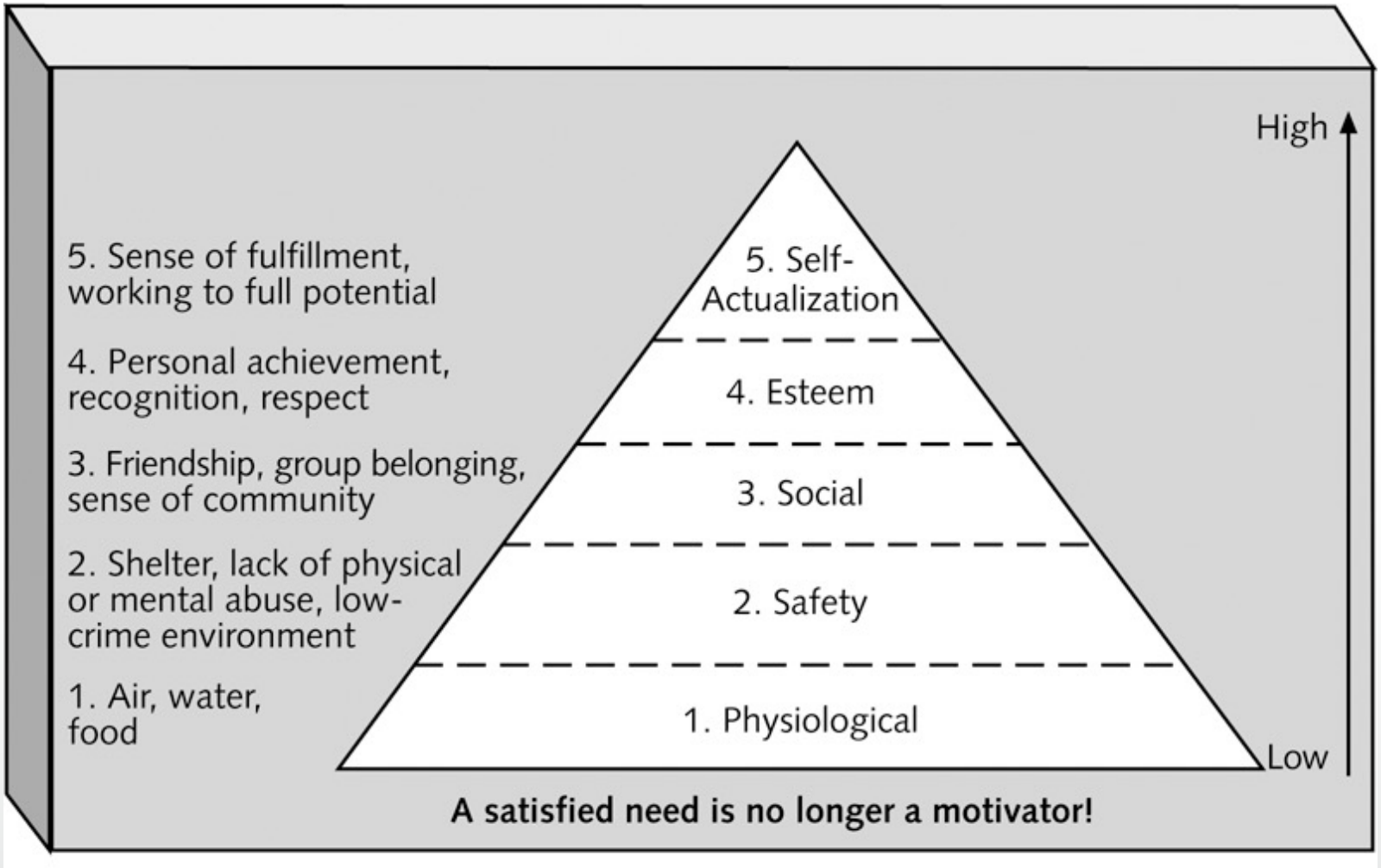
Resources – dealing with people

- Before discussing resource assignments and team performance assessment, it is important to understand basic concepts related to dealing with people in a work setting.
- Key concepts include motivation, influence, and effectiveness.

Motivation

- Project managers must understand motivation theories to effectively execute projects
- Psychologists, managers, coworkers, teachers, parents, and most people in general still struggle to understand what motivates people, or why they do what they do
- Intrinsic motivation causes people to participate in an activity for their own enjoyment
- Extrinsic motivation causes people to do something for a reward or to avoid a penalty
- Maslow suggested that people's behaviors are guided or motivated by a *sequence of needs*

Maslow's Hierarchy of Needs



Schwalbe, Information Technology Project Management, Sixth Edition, 2010

Herzberg's Motivational and Hygiene Factors

- Frederick Herzberg wrote several famous books and articles about worker motivation. He distinguished between the following:
  - Motivational factors: Factors that cause job satisfaction, such as achievement, recognition, the work itself, responsibility, advancement, and growth
  - Hygiene factors: Factors that cause dissatisfaction if not present, but do not motivate workers to do more. Examples include larger salaries, more supervision, and a more attractive work environment

McClelland's Acquired-Needs Theory

- Specific needs are acquired or learned over time and shaped by life experiences, including:
  - Achievement (nAch): People with a high need for achievement like challenging projects with achievable goals and lots of feedback
  - Affiliation (nAff): People with high nAff desire harmonious relationships and need to feel accepted by others, so managers should try to create a cooperative work environment for them
  - Power: (nPow): People with a need for power desire either personal power (not good) or institutional power (good for the organization). Managers should provide institutional power seekers with management opportunities

McGregor's Theory X and Y and Ouchi's Theory Z

- Douglas McGregor popularized the human relations approach to management in the 1960s
- Theory X: Assumes workers dislike and avoid work, so managers must use coercion, threats and various control schemes to get workers to meet objectives
- Theory Y: Assumes individuals consider work as natural as play or rest and enjoy the satisfaction of esteem and self-actualization needs
- Theory Z: Emphasizes motivating workers and increasing loyalty by providing a job for life with a strong focus on the well-being of the employee, both on and off the job. Developed by William Ouchi.

Media Snapshot

- Workers quit their jobs in record numbers in 2021, even what some would consider to be dream jobs. In a recent survey, more than 80% of organizations experienced pushback from their workers when they mentioned returning to the office full time. Flexibility was the top reason behind employees' exits, followed by burnout.
- McKinsey & Company studied performance during the pandemic. Top performers, called "Organizational Resilients," did four things better than others during the pandemic:

1. They clarified strategy and goals
2. They invested in coaching and recognition
3. They absorbed and adopted new collaboration technologies
4. They used close-knit, cross-silo teams empowered to take decisions

Thamhain and Wilemon's Ways to Have Influence on Projects

1. Authority: The legitimate hierarchical right to issue orders.
2. Assignment: The project manager's perceived ability to influence a worker's later work assignments.
3. Budget: The project manager's perceived ability to authorize others' use of discretionary funds.
4. Promotion: The ability to improve a worker's position.
5. Money: The ability to increase a worker's pay and benefits.

Thamhain and Wilemon's Ways to Have Influence on Projects (continued)

6. Penalty: The project manager's ability to cause punishment.
7. Work challenge: The ability to assign work that capitalizes on a worker's enjoyment of doing a particular task.
8. Expertise: The project manager's perceived special knowledge that others deem important.
9. Friendship: The ability to establish friendly personal relationships between the project manager and others.

Ways to Influence that Help and Hurt Projects

- Projects are more likely to *succeed* when project managers influence with the following:
  - Expertise
  - Work challenge
- Projects are more likely to *fail* when project managers rely too heavily on the following:
  - Authority
  - Money
  - Penalty

Effectiveness

- Stephen Covey, author of *The 7 Habits of Highly Effective People,* expanded on the work done by Maslow, Herzberg, and others to develop an approach for helping people and teams become more effective.

- Project managers can apply Stephen Covey's 7 habits to improve effectiveness on projects

Effectiveness

- Covey's seven habits to improve effectiveness on projects, as follows:
  1. Be proactive
  2. Begin with the end in mind - focus on their values
     - Many organizations and projects have mission statements that help them focus on their main purpose.
  3. Put first things first
     - Covey developed a time-management system and matrix to help people prioritize their time.
     - Project managers should focus on important and not urgent activities, such as developing various project plans, building relationships with major project stakeholders, and mentoring project team members.

Effectiveness

4. Think win/win
   - Parties in potential conflict work together to develop new solutions that make them all winners.
5. Seek first to understand, then to be understood
   - Empathic listening is listening with the intent to understand by putting yourself in the shoes of the other person.
6. Synergize
   - In projects, a project team can synergize by creating collaborative products that are much better than a collection of individual efforts.
7. Sharpen the saw
   - When you practice sharpening the saw, you take time to renew yourself physically, spiritually, mentally, and socially. The practice of self-renewal helps people avoid burnout.

Empathic Listening and Rapport

- Good project managers are empathic listeners—they listen with the intent to understand
- Before you can communicate with others, you have to have rapport—a relation of harmony, conformity, accord, or affinity
- Mirroring is the matching of certain behaviors of the other person, a technique to help establish rapport

What Went Right?

- A young business consultant who worked in the IT department of a major aerospace firm met with a senior project manager and his core team. The company was losing money on the project, and the project manager blamed it all on the IT department
- When the project manager entered the meeting room with three of his staff, all older men, he threw his books on the table and started yelling at the young consultant and her even younger assistant
- Instead of backing down, the consultant mirrored the project manager's behavior and started yelling right back at him. He stood back, paused, and said, "You're the first person who's had the guts to stand up to me. I like that!"
- After that brief introduction, rapport was established, and everyone began communicating and working together as a team to solve the problem at hand (true story!)

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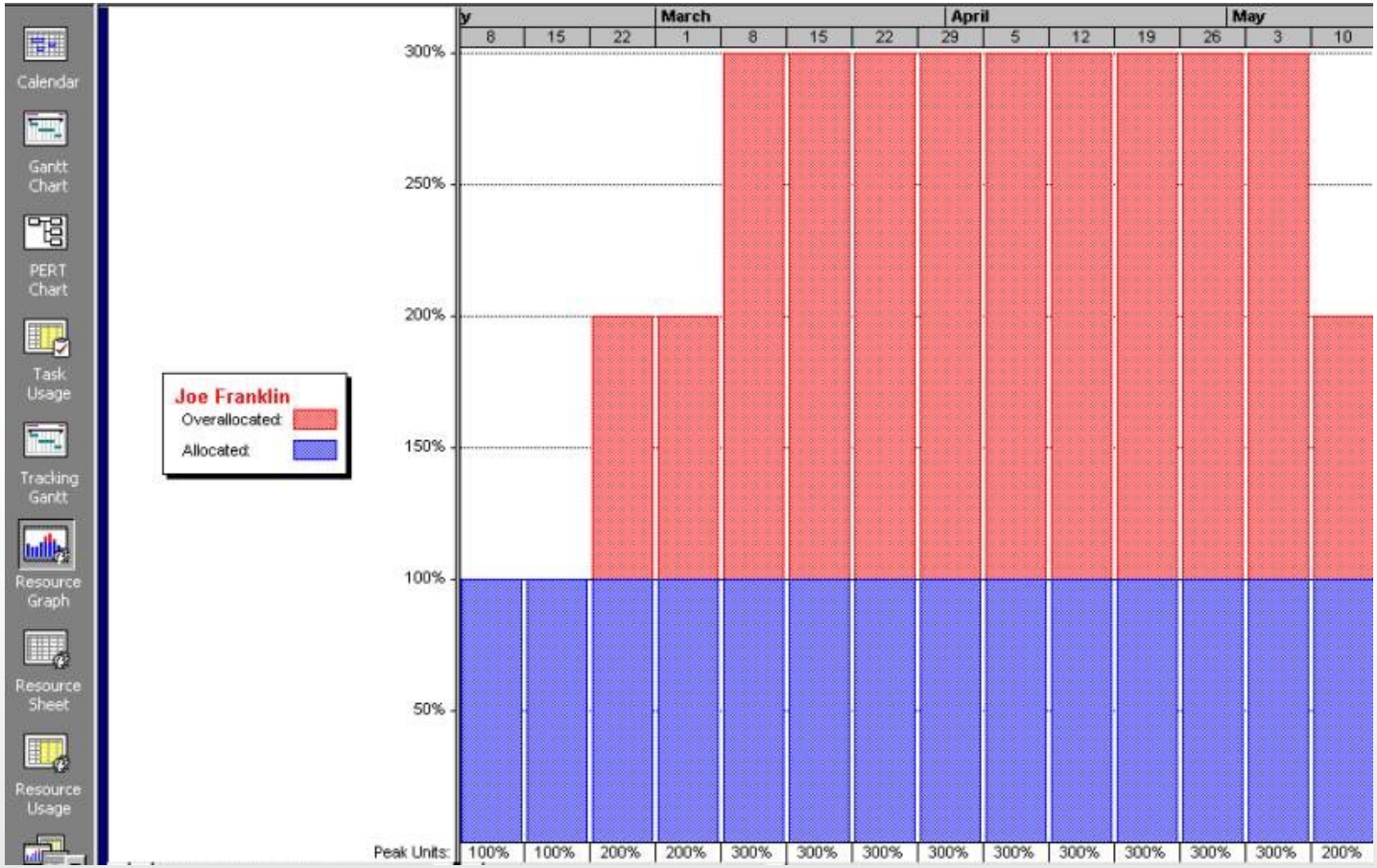
Acquiring Resources

- Project resources include both physical and human resources
  - Physical resources include equipment, supplies, and materials
  - Human resources include the people required to perform the project work
- After developing a staffing management plan during project planning, project managers must work with other managers to assign personnel to their project or to acquire additional human resources needed to staff their project
- Problems that often occur when assigning resources are availability and overallocation.
- You can use resource loading and levelling to help address these problems.

Resource Loading

- Resource loading refers to the amount of individual resources an existing schedule requires during specific time periods
- Helps project managers to develop a general understanding of the demands a project will make on the organization's resources and individual people's schedules
- Overallocation means more resources than what are available assigned to tasks
- Project managers often use resource histograms, as described in Chapter 6

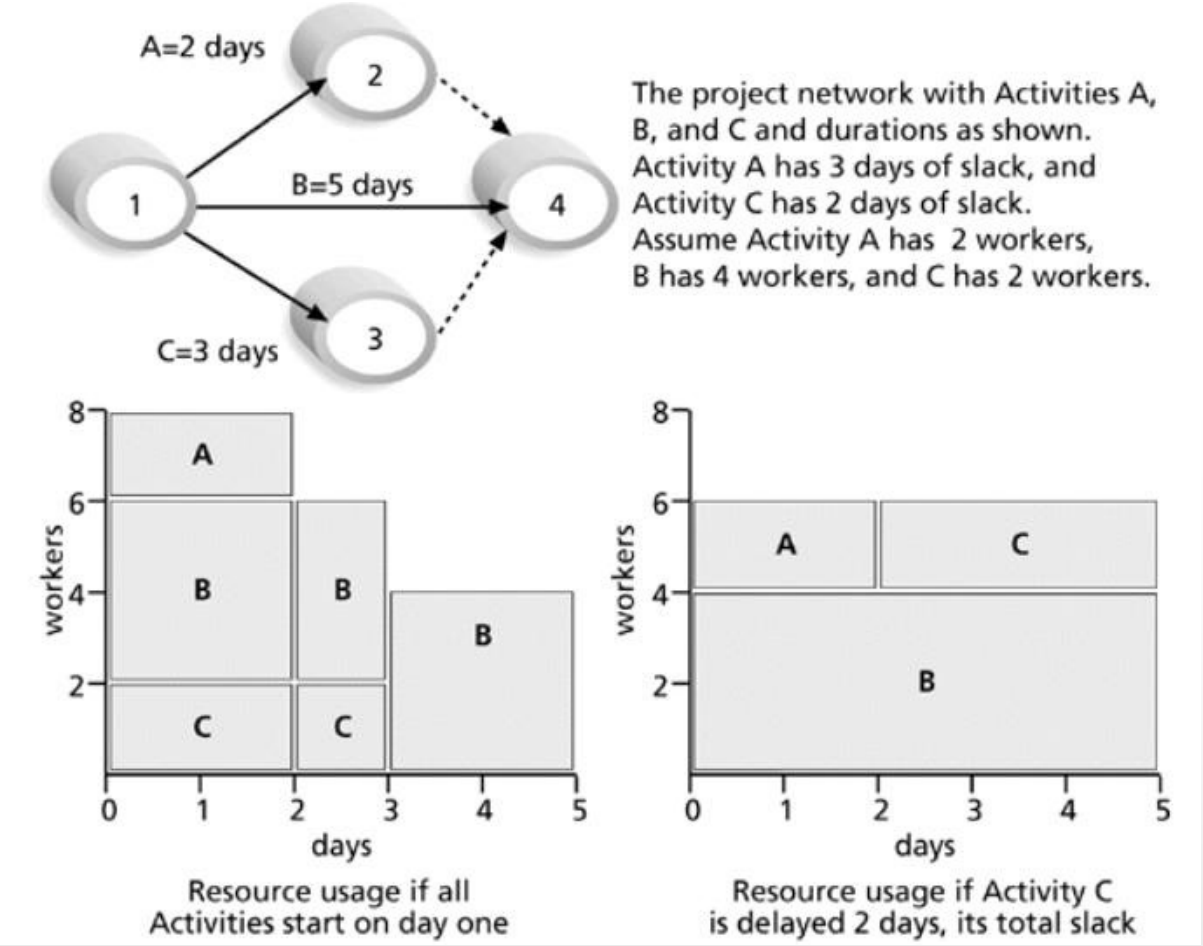
Sample Resource Histogram Showing an Overallocated Individual



Resource Leveling

- Resource leveling is a technique for resolving resource conflicts by delaying tasks
- The main purpose of resource leveling is to create a smoother distribution of resource usage and reduce overallocation

Resource Leveling Example



Schwalbe, Information Technology Project Management, Sixth Edition, 2010

Benefits of Resource Leveling

- When resources are used on a more constant basis, they require less management
- It may enable project managers to use a just-in-time inventory type of policy for using subcontractors or other expensive resources
- It results in fewer problems for project personnel and accounting department
- It often improves morale

Sample Physical Resource Assignments

Physical Resource	Date(s) Reserved	Description
Classroom 1	1/12	Need this room for executive course
Classroom 2	12/15, 1/20, 1/26, 2/3, 2/9	Need this room or Classroom 4
Classroom 3	2/3	Need this room for software applications course – has required student computers

Sample Project Team Assignments

Name	Role on Project	Position	Email	Phone	Location
Mike Sundby	Project Champion	VP of HR	msundby@ globalconstruction.com		
Lucy Camerena	Project Sponsor	Training Director	lcamerena@ globalconstruction.com		
Kristin Maur	Project Manager	Project Manager	kmaur@ globalconstruction.com		
Mohamed Abdul	Team Member	Senior programmer/ analyst	mabdul@ globalconstruction.com		
Kim Johnson	Team Member	Curriculum designer	kjohnson@ global construction.com		
Abner Tomas	Team Member	Supplier management expert	atomas@ globalconstruction.com		

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Project quality management	Manage quality	Quality report Test and evaluation documents Change requests Project management plan updates Project documents updates
Project resource management	Acquire resources	Physical resource assignments Project team assignments Resource calendars Change requests Project management plan updates Project documents updates Enterprise environmental factors updates Organizational process assets updates
	Develop team	Team performance assessments Change requests Project management plan updates Project documents updates Enterprise environmental factors updates Organizational process assets updates
	Manage team	Change requests Project management plan updates Project documents updates Enterprise environmental factors updates

Developing the Project Team

- Many failed projects have been staffed by highly talented individuals; however, it takes *teamwork* to complete projects successfully
- The main goals of team development are to help people work together more effectively, improve interpersonal skills, increase motivation, reduce attrition, and improve overall project performance
- Project managers should understand and apply good team-building practices because it takes teamwork to successfully execute most projects

Tuckman Model of Team Development

- *Forming* – involves the introduction of team members
- *Storming* – occurs as team members have different opinions as to how the team should operate – conflict within the team
- *Norming* – is achieved when team members have developed a common working method, and cooperation and collaboration replace the conflict and mistrust of the previous phase.
- *Performing* – occurs when the emphasis shifts to reaching the team goals rather than working on team process.
- *Adjourning* – involves the breakup of the team after they successfully reach their goals and complete the work. Teams might also adjourn due to poor performance or project cancellation.

Training

- Project managers often recommend that people take specific training courses to improve individual and team development
- *Team-building activities* include using physical challenges and psychological preference indicator tools, such as the Meyers-Briggs Type Indicator and the Social Styles Profile

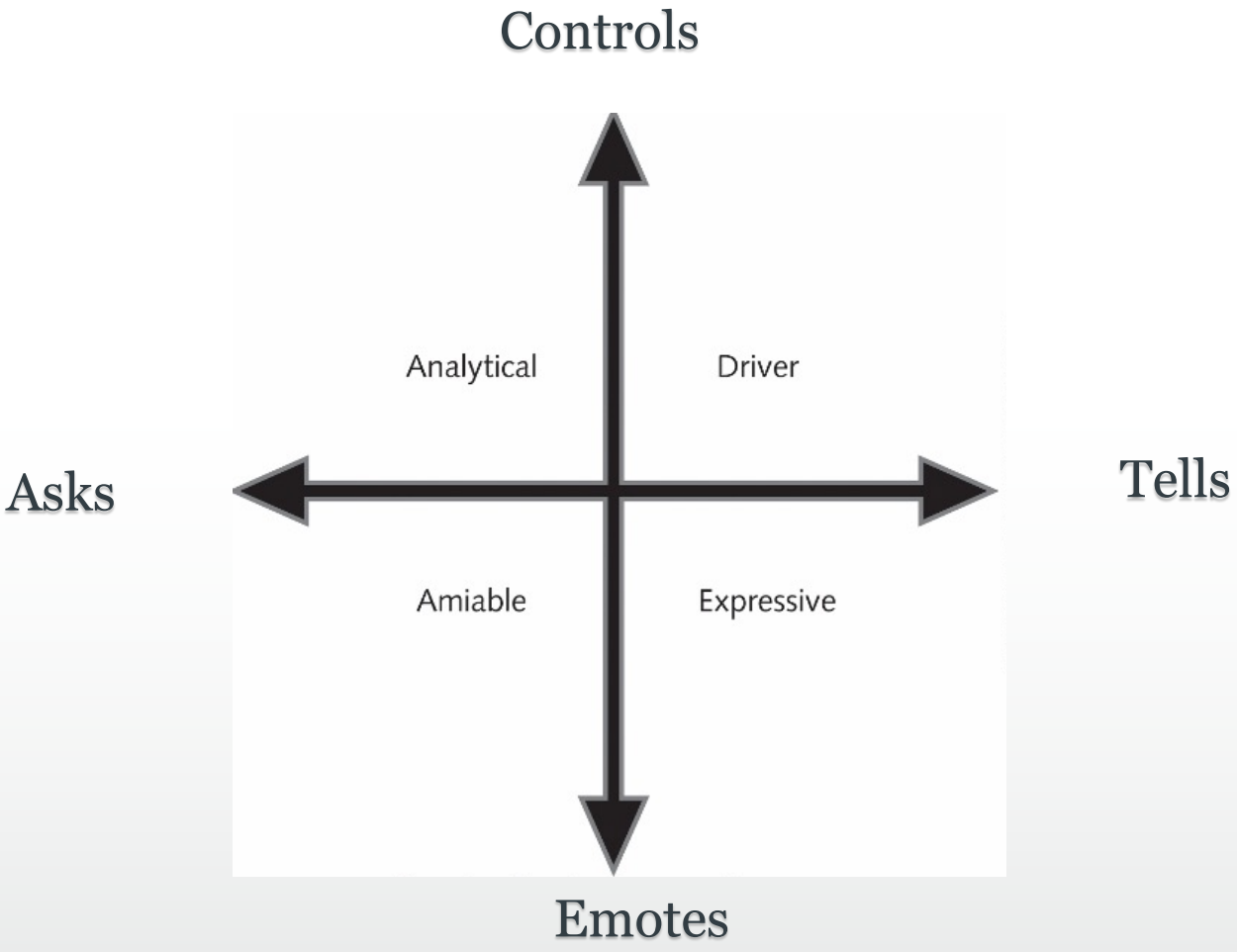
Meyers-Briggs Type Indicator (MBTI)

- MBTI is a popular tool for determining personality preferences and helping teammates understand each other
- Four dimensions include:
  - Extrovert/Introvert (E/I)
  - Sensation/Intuition (S/N)
  - Thinking/Feeling (T/F)
  - Judgment/Perception (J/P)
- Project managers might want to make sure that they have a variety of personality types on their team

Social Styles Profile

- People are perceived as behaving primarily in one of four zones, based on their assertiveness and responsiveness:
  - Drivers
  - Expressives
  - Analyticals
  - Amiables
- People on opposite corners (drivers and amiables, analyticals and expressives) may have difficulties getting along

Social Styles Model



Reward and Recognition Systems

- Team-based reward and recognition systems can promote teamwork
- Focus on rewarding teams for achieving specific goals
- Allow time for team members to mentor and help each other to meet project goals and develop human resources

Sample Team Performance Assessment

- Project managers assess team performance in several ways.
  - Kristin believed in management by wandering around, and she liked to have many short, informal discussions with various stakeholders, especially her project team members
  - She also observed people working alone and as a team, and assessed the quality of deliverables they produced
  - Kristin periodically asked her project team members to fill out self-assessments to assist in performance assessment; she discussed each person's assessment and took corrective actions as needed
  - Kristin and other project managers at Global Construction also filled out performance appraisals for each team member once a year or when a project was completed

Sample Team Performance Assessment

Project Name: Just-In-Time Training Project
Individual's Name: _____ **Project Manager:** Kristin Maur
Date: _____

1. Using a scale of 0-100, assess how you think **the project team** is performing: ___
2. Explain the rationale behind the above score.
3. Using a scale of 0-100, assess how **you** are performing on this project: _____
4. Explain the rationale behind the above score. What are your roles and responsibilities, and how well have you performed them?
5. Briefly assess each team member's performance. If you had to give each person a score between 0-100, what would it be?
6. To compare individual contributions, if you had 100 points to allocate to your team, how would you allocate them?
7. What suggestions do you have for improving team performance?

Executing Processes and Outputs

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project integration management	Direct and manage project work	Deliverables Work performance data Issue log Change requests Project management plan updates Project documents updates Organizational process assets updates
	Manage project knowledge	Lessons learned register Project management plan updates Organizational process assets updates
Project quality management	Manage quality	Quality report Test and evaluation documents Change requests Project management plan updates Project documents updates
Project resource management	Acquire resources	Physical resource assignments Project team assignments Resource calendars Change requests Project management plan updates
	Develop team	Project documents updates Enterprise environmental factors updates Organizational process assets updates Team performance assessments Change requests
	Manage team	Project management plan updates Project documents updates Enterprise environmental factors updates Organizational process assets updates Change requests Project management plan updates Project documents updates Enterprise environmental factors updates

Managing the Project Team

- Managing a project team is no small task!
- Project managers must use their soft skills to find the best way to motivate and manage each team member
- Tools and techniques include:
  - Observation and conversation
  - Feedback - timely performance feedback
  - Conflict management - several ways to handle conflicts mentioned earlier

General Advice on Managing 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 of forming, storming, norming, performing, and adjourning
- Limit the size of work teams to three to seven members to enhance communications
- Plan some social activities to help project team members and other stakeholders become acquainted
- Stress team identity
- Nurture team members and encourage them to help each other
- Acknowledge individual and group accomplishments

Additional Advice for Virtual Teams

1. Hire the right people.
2. Trust your people.
3. Tailor communications.
4. Use technology effectively.
5. Use rituals.
6. Own your own schedule, and let people own theirs
7. Make the time to get personal.
8. Build a strong team culture.
9. Be available.
10. Be unavailable.

Remember that individual motivation is a key factor in virtual team performance. Also, technology can help, but only if you understand what's worth working on together and who needs to be working on what

Executing Processes and Outputs (continued)

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project communications management	Manage communications	Project communications Project management plan updates Project documents updates Organizational process assets updates
Project risk management	Implement risk responses	Change requests Project documents updates
Project procurement management	Conduct procurements	Selected sellers Agreements Change requests Project management plan updates Project documents updates Organizational process assets updates
Project stakeholder management	Manage stakeholder engagement	Change requests Project management plan updates Project documents updates Organizational process assets updates

Project Communications Management

- Good communications management is also crucial to project execution
- The process of managing communications involves gathering information to create, distribute, store, retrieve, and dispose of project communications in accordance with the communications management plan
  - Disposal does not mean discarding. It means putting documents in a defined place, and document retention regulations may determine document disposal policies.
- The main outputs of the manage communications process are project communications and updates to project documents, the project management plan, and organizational process assets

Important Project Communications Concepts

- It is important to address important concepts related to improving project communications
- Key concepts include:
  - Formal and informal communications
  - Nonverbal communications
  - Using the appropriate communications medium
  - Understanding individual and group communication needs
  - The impact of team size on project communications

Formal and Informal Communications

- It is not enough for project team members to submit formal status reports to their project managers and other stakeholders and assume that everyone who needs to know that information will read the reports
- In fact, many people may prefer to have an informal, two-way conversation about project information
- Project managers must be good at nurturing relationships through good communication

Nonverbal Communications

- Research poses the theory that in a face-to-face interaction, 58 percent of communication is through body language, 35 percent is through how the words are said, and a mere 7 percent is through the content or words that are spoken
- Even if the actual percentages are different in verbal project communications today, it is safe to say that it is important to pay attention to more than just the actual words someone is saying
- Nonverbal communications, such as a person's tone of voice and body language, are often more important than the words being used

Understanding Individual and Group Communication Needs

- People are not interchangeable parts
- As illustrated in Brooks' book, *The Mythical Man-Month*, you cannot assume that a task originally scheduled to take two months of one person's time can be done in one month by two people; nine women cannot produce a baby in one month!
- Individuals prefer different ways to communicate
- Geographic location and cultural backgrounds also affect communications

The Impact of Team Size on Project Communications

- As the number of people involved increases, the complexity of communications increases because there are more communications channels, or pathways, through which people can communicate
- Number of communications channels = $n(n-1)/2$

  where n is the number of people involved
- For example, two people have one communications channel: $2(2-1)/2 = 1$. Five people have ten channels $5(5-1)/2=10$
- It is often helpful to form several smaller teams within a large project team to help improve project communications

Project Communications and Updating Business Processes

- Getting project information to the right people at the right time and in a useful format is just as important as developing the information in the first place
- During execution, project teams must address important considerations for creating and distributing information

Sample Updates to Business Processes

- Kristin and her team used instant messaging on a regular basis both within their team and with suppliers
- Several suppliers used Webcasts to communicate information in a more dynamic way without incurring travel expenses
- The Web-based courses that suppliers were developing for the project included discussion threads and an "Ask the Expert" feature, in which learners could ask specific questions of the instructor or experts within the company on various topics related to the course
- Kristin kept her own personal project blog to document important events and lessons she was learning while managing the project
- The project steering committee asked Kristin to prepare guidelines for using these new technologies effectively

Executing Processes and Outputs (continued)

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project communications management	Manage communications	Project communications Project management plan updates Project documents updates Organizational process assets updates
Project risk management	Implement risk responses	Change requests Project documents updates
Project procurement management	Conduct procurements	Selected sellers Agreements Change requests Project management plan updates Project documents updates Organizational process assets updates
Project stakeholder management	Manage stakeholder engagement	Change requests Project management plan updates Project documents updates Organizational process assets updates

Project Stakeholder Management

- The process of managing stakeholder engagement involves working with various project stakeholders to meet their needs and expectations, addressing stakeholder issues as they occur, and fostering engagement in project decisions and activities
- The key benefit of managing stakeholder engagement, if done well, is that it allows the project manager to increase support and minimize resistance from stakeholders, significantly increasing the chances to achieve project success

Managing Stakeholder Engagement

- Good teachers use several techniques to engage students; project managers also need to actively engage project stakeholders
- Need to set the stage early so stakeholder engagement is expected and welcomed
- Many of the outputs are similar to other knowledge areas, such as change requests and updates to the project management plan and project documents

Executing Processes and Outputs (continued)

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project communications management	Manage communications	Project communications Project management plan updates Project documents updates Organizational process assets updates
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Project Risk Management

- The main executing task performed as part of project risk management is implementing risk responses as defined in the process to plan risk responses
- Key outputs include change requests and project documents updates (i.e., issue log, lessons learned register, project team assignments, risk register, and risk report)

Executing Processes and Outputs (continued)

KNOWLEDGE AREA	EXECUTING PROCESS	OUTPUTS
Project communications management	Manage communications	Project communications Project management plan updates Project documents updates Organizational process assets updates
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Project Procurement Management

- The main executing process is conducting procurements, which involves obtaining seller responses to requests for proposals or bids, selecting sellers, and making agreements, often by awarding contracts
- Prospective sellers do most of the work in this process by preparing their proposals and bids, normally at no cost to the buyer
- The buying organization is responsible for deciding how to approach sellers and providing required procurement documents
- Important documents created as a result of conducting procurements include contracts

Methods to Approach and Select Qualified Sellers or Suppliers

- Approaching a preferred supplier
- Approaching several qualified suppliers
- Advertising to many potential suppliers

Sample Qualified Sellers List

Project Name: Just-In-Time Training Project

Seller Name/ Web Site	Areas of Expertise	Full-Time Staff	Reputation
Company A *www.coA.com*	Construction industry, supplier management, project management	40	One of few training firms that specializes in training for the construction industry
Company B *www.coB.com*	E-learning, custom course development	100	Has many partnerships with other companies, reasonable prices
Company C *www.coC.com*	Project management, negotiating skills	10	Small firm but well respected; does instructor-led and e-learning
Etc.			

Selecting Sellers and Writing Contracts

- Selecting sellers, often called source selection, involves evaluating proposals or bids from sellers, choosing the best one, negotiating the contract, and awarding the contract
- Often, buyers develop a short list of the top three to five suppliers to reduce the work involved in selecting a source, and they are often asked to prepare a best and final offer (BAFO)
- It is good practice to include a detailed statement of work and schedule as part of the contract to clarify exactly what work the seller will perform and when

Sample Agreement or Contract

Title of Work: Qualified Sellers List and Report

This is an Agreement made as of _____ by ABC Training Consultants, 2255 River Road, Boston, MA (the "Seller"), and Global Construction, Inc., 5000 Industrial Drive, Minneapolis, MN (the "Buyer").

THE SELLER AND THE BUYER AGREE THAT:

1. The Work: The Seller will create the Work as set forth in Exhibit A hereto. The Buyer will provide the Seller with the format and specifications in which each element of the Work is to be submitted. The Seller agrees to conform to such format and specifications.

2. Delivery of the Work: The Seller agrees to deliver to the Buyer the Work in form and content acceptable to the Buyer on or before the dates outlined in Exhibit B of this Agreement, time being of the essence to the Buyer.

3. Right to Terminate: If the Seller materially departs from the agreed-upon schedule or if the Work is not satisfactory to the Buyer (based on reviews of drafts, market conditions, and/or other criteria as determined by the Buyer), the Buyer may at its option:

   A. Allow the Seller to finish, correct, or improve the Work by a date specified by the Buyer;

   B. Terminate this Agreement by giving written notice to the Seller.

4. Payments: The Buyer will pay the Seller a fixed price of $5,000 upon accepted completion of the Work.

5. Exhibit: The following Exhibit is hereby incorporated by reference into this Agreement:

   Exhibit A: Statement of Work

   Exhibit B: Schedule

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE EXECUTED THIS Agreement as a sealed instrument as of the date first above written.

	Global Construction, Inc.	ABC Training Consultants
By:	_____	_____
Date	_____	_____

Leadership Styles

- Laissez-faire: Meaning “let go,” this hands-off approach lets teams determine their own goals and how to achieve them.
- Transactional: This management by exception approach focuses on achieving goals or compliance by offering team members appropriate rewards and punishments.
- Servant leader: People using this approach focus on relationships and community first and leadership is secondary.
- Transformational: By working with others to identify needed changes, these leaders empower others and guide changes through inspiration.
- Charismatic: These people can inspire others based on their enthusiasm and confidence.
- Interactional: This leadership style is a combination of transactional, transformational, and charismatic.

Daniel Goleman on Situational Leadership

1. Visionary: Needed when an organization needs a new direction, and the goal is to move people towards a new set of shared dreams.
2. Coaching: One-on-one style that focuses on developing individuals, showing them how to improve their performance.
3. Affiliative: Emphasizes the importance of teamwork and creating harmony by connecting people to each other.
4. Democratic: Focuses on people's knowledge and skills and creates a commitment to reaching shared goals.
5. Pacesetting: Used to set high standards for performance.
6. Commanding: Most often used, also called autocratic or military style leadership.

Video Highlights

- A 2020 article summarized "30 Of The Best TED Talks On Leadership That Every Great Leader Should Watch – 2nd Edition."
- Another popular video is narrated by Daniel Pink. He suggests that manager focus on three motivators:
  - Autonomy
  - Mastery
  - Purpose
  - Jimmy Kimmel's video on the Handsome Men's Club provides an amusing example of Jimmy's Theory X approach to management

Brené Brown

- Dr. Brené Brown, a researcher at the University of Houston and author of *Dare to Lead* (2018), defines a leader as "anyone who takes responsibility for finding the potential in people and processes and has the courage to develop that potential."
- Her website states, "Leadership is not about titles or the corner office. It's about the willingness to step up, put yourself out there, and lean into courage. The world is desperate for braver leaders. It's time for all of us to step up."

Applying Project Management Principles Related to Executing Projects

- Demonstrate leadership behaviors.
- Be a diligent, respectful, and caring steward.
- Effectively engage with stakeholders.
- Recognize, evaluate, and respond to system interactions.

Executing Agile/Hybrid Projects

- Agile/hybrid project managers and their teams can use any of the predictive project executing processes, tools, or techniques mentioned earlier.
- An important characteristic of agile teams is that they should be self-directed.
- The Scrum master or project manager, if there is one, should primarily use a servant-leader approach, focusing on other people's growth, learning, and autonomy.

Theory Versus Practice

- According to The Scrum Guide, “Scrum Teams are cross-functional, meaning the members have all the skills necessary to create value each Sprint. They are also self-managing, meaning they internally decide who does what, when, and how.”
- Several Scrum events, like the daily Scrum, would help the team communicate information in a timely manner.
- However, practice does not always follow theory.

Implemented Solutions to Problems on Agile Projects

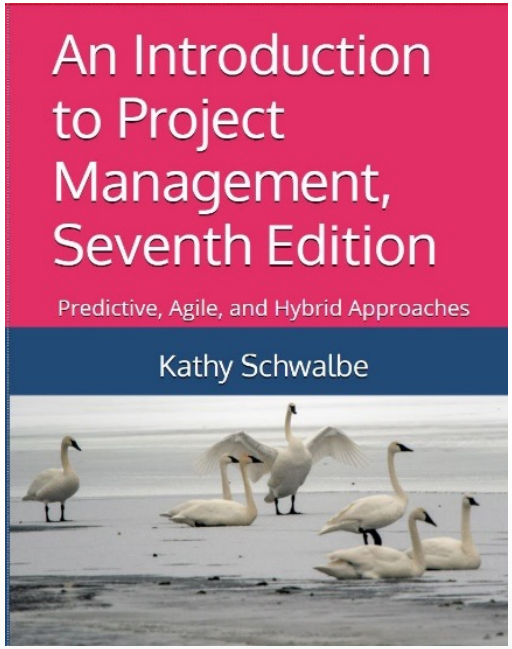
- Team members do not have all the necessary skills: Debra's teams did not have enough knowledge about new technologies (3-D printing, robotics, and artificial intelligence). They decided to outsource user stories related to new technologies (and perhaps acquire other companies).
- Teams are not following Scrum values: Scott was afraid to bring up ideas around Vanessa. Debra held a special meeting to ensure the team felt psychologically safe.
- Requirements change too quickly: Debra and her incentives team held a special meeting to address the competitor's new tuition policy. The backlog can change within a sprint.

Chapter Summary

- Good execution is crucial to project success. Without it, the products, services, and results planned from the project cannot materialize.
- Common outputs to these knowledge areas include change requests and updates to the project management plan, project documents, and organizational process assets.
- It is also important to use effective leadership and apply several project management principles that assist in executing projects.
- Project managers must understand the theory as well as the practice of executing agile projects. Several common problems and potential solutions are provided for the GCHC project.

Reference

- Chapter 7



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