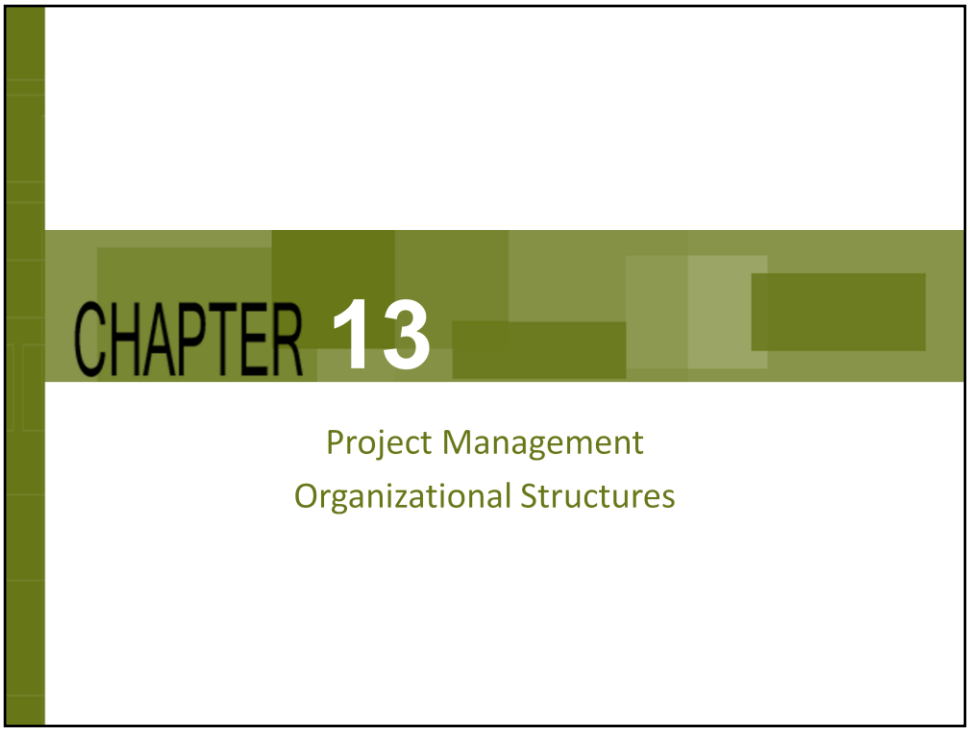


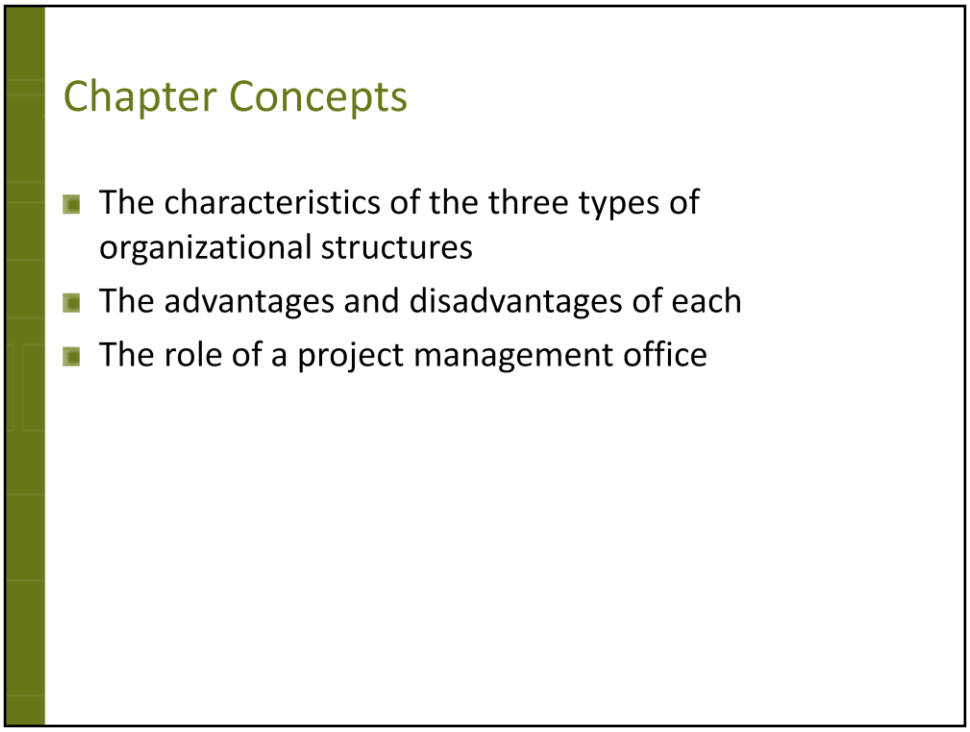
Teaching Strategies

- The two vignettes in this chapter present information about the success of project management organizations. Both organizations in these vignettes value having employees be familiar with project management techniques and processes. **(See Premium Deck for Slides.)**
    - Have students search for additional information about the companies to see how each has advanced their project management organization.
    - Have students examine the organizational structure of an organization of their choice.
    - Have them determine if the size of the organization influences the type of organizational structure.
    - Have students brainstorm ways in which a team could be structured and then have them evaluate the resulting structures to identify the advantages and disadvantages of each.
    - Have a guest speaker from a local organization present information about the organization's structure and how they manage projects.

Optional Supplemental Activities

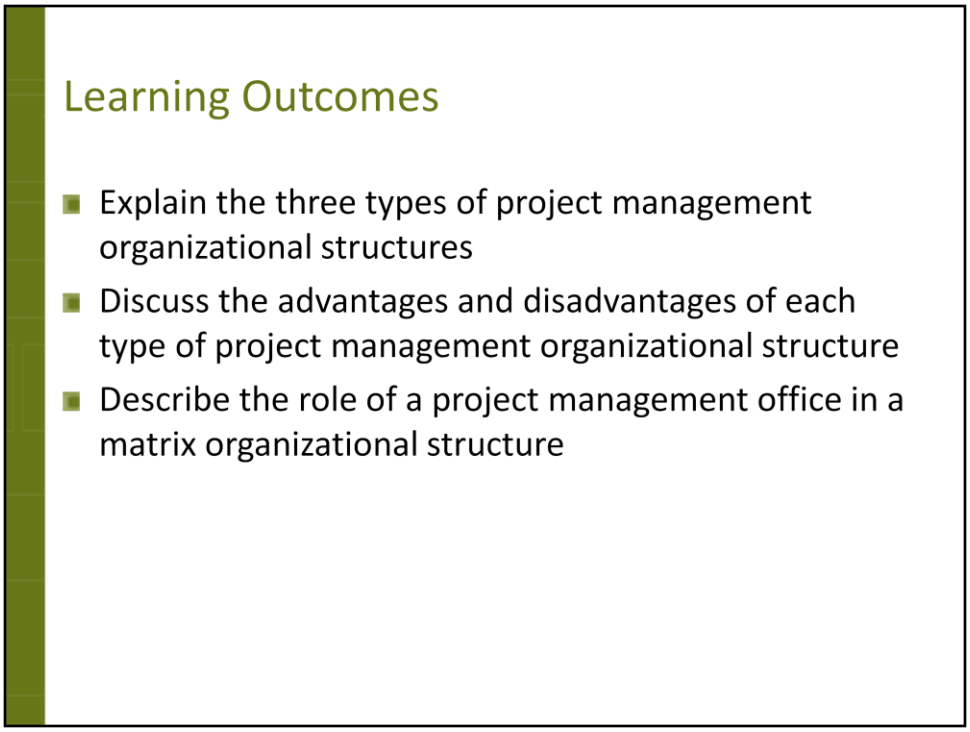
- Have the students read the real-world vignettes.
- Have each student interview someone in business who is involved in a project.
    - Get them to present on their findings, summarize the project, and provide a discussion of the specific organizational structure that is used.
- Have the students read the chapter and answer all of the Reinforce Your Learning questions and the questions at the end of the chapter.

- Have students interview the organizer for an event from the PMI website and present the results of the interview to the class.



Chapter Concepts

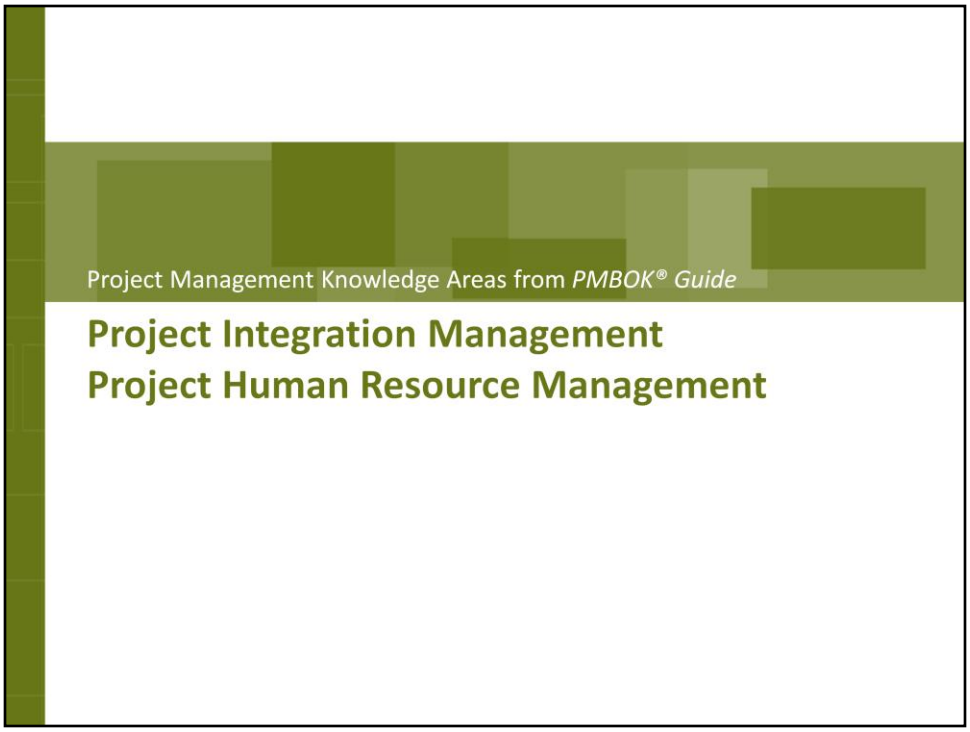
- Although there are various configurations in which people can be organized to work on projects, the most common types of organizational structures are:
    - Functional
    - Autonomous project
    - Matrix
- The concepts presented in this chapter are applicable to many sectors, such as industrial companies, service businesses, government and public agencies, and not-for-profit organizations, including educational institutions, healthcare organizations, and charitable foundations.
- This chapter will help students become familiar with:
    - The characteristics of the three types of organizational structures
    - The advantages and disadvantages of each structural type
    - The role of a project management office



Learning Outcomes

After studying this chapter, students should be able to:

- Explain the three types of project management organizational structures
- Discuss the advantages and disadvantages of each type of project management organizational structure
- Describe the role of a project management office in a matrix organizational structure

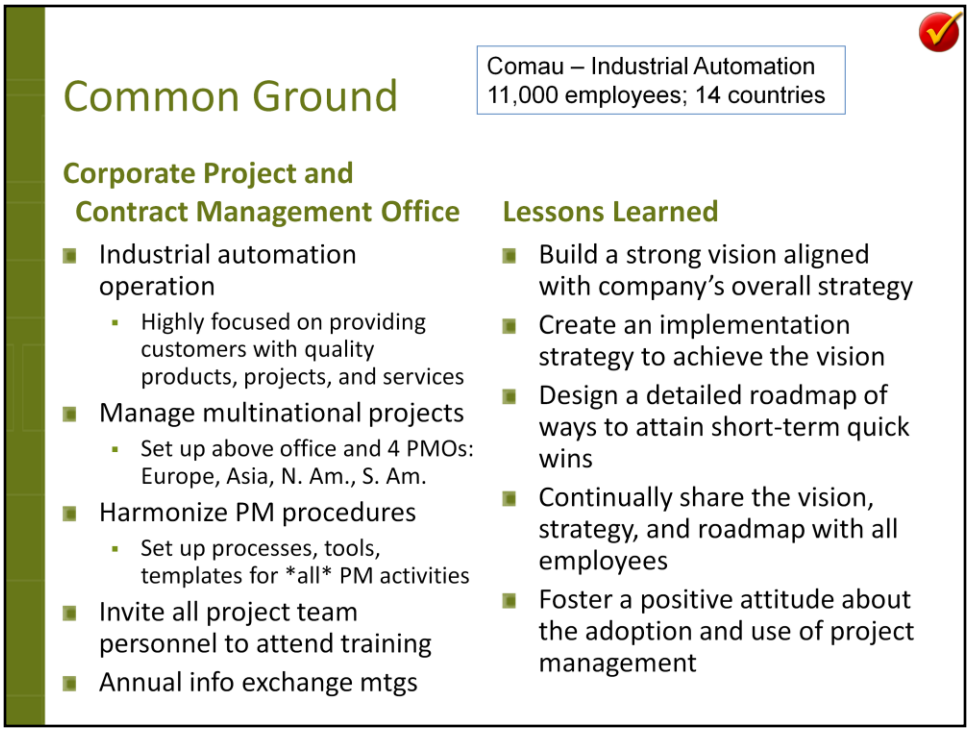


Project Management Knowledge Areas from PMBOK® Guide

Concepts in this chapter support the following Project Management Knowledge Areas of *the PMI Guide to the Project Management Body of Knowledge (PMBOK® Guide*):

Project Integration Management

Project Human Resource Management



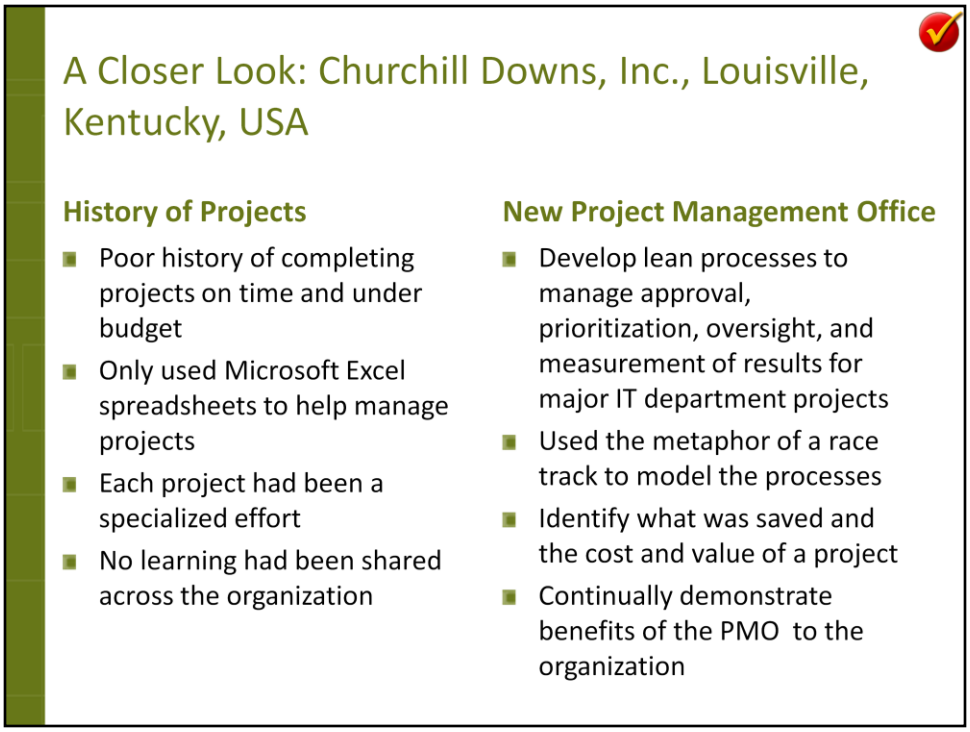
Vignette A: Common Ground

- With operations in Europe, Asia, and America, Comau provides flexible, modular, and innovative solutions to a number of industrial sectors, including aerospace, trains, naval, safety, solar power, and automotive.
- The four divisions of Comau—body welding and assembly, powertrain machining and assembly, robotics and service, and aerospace production—focus on industrial automation.
- Comau is part of the Fiat Group.
- In an effort to have employees in the multiple global locations performing common project management processes, Comau launched its Project, Program, and Leadership Academy to improve portfolio management and governance by targeting its organization, employee skills, project management processes, and communication.
- It developed the Corporate Project and Contract Management Office at the corporate level and four geographical project management offices—Corporate PMO Europe, PMO North America, PMO South America, and PMO Asia.
- Comau is highly focused on providing customers with quality products, projects, and services.
- It manages multinational projects, provides contractual specialists during the project execution phase, harmonizes project management procedures, and leads the Comau PM Academy for training.
- All personnel working on project teams were invited to attend the in-house training sessions taught by project managers within the company.
- Comau holds annual meetings and, through a dedicated portal, exchanges information, know-how, and lessons learned to its staff.
- Comau offers lessons learned to other organizations as well through its project management office and company project management training program.

Lessons Comau has learned over the years are:

- Build a strong vision that is aligned with the company's overall strategy
- Create an implementation strategy to achieve the vision by conducting a maturity assessment and gap analysis
    - Secure commitment and sponsorship
    - Define functions, roles, and responsibilities
    - Identify processes and tools
    - Estimate resources and costs
    - Outline priorities

- Design a detailed roadmap of ways to attain short-term quick implementation wins
- Continually share the vision, strategy, and roadmap with all employees to communicate best practices and achievements
- Foster a positive attitude about the adoption and use of project management, then have the early adopters be champions for the projects and work as change agents for the other employees

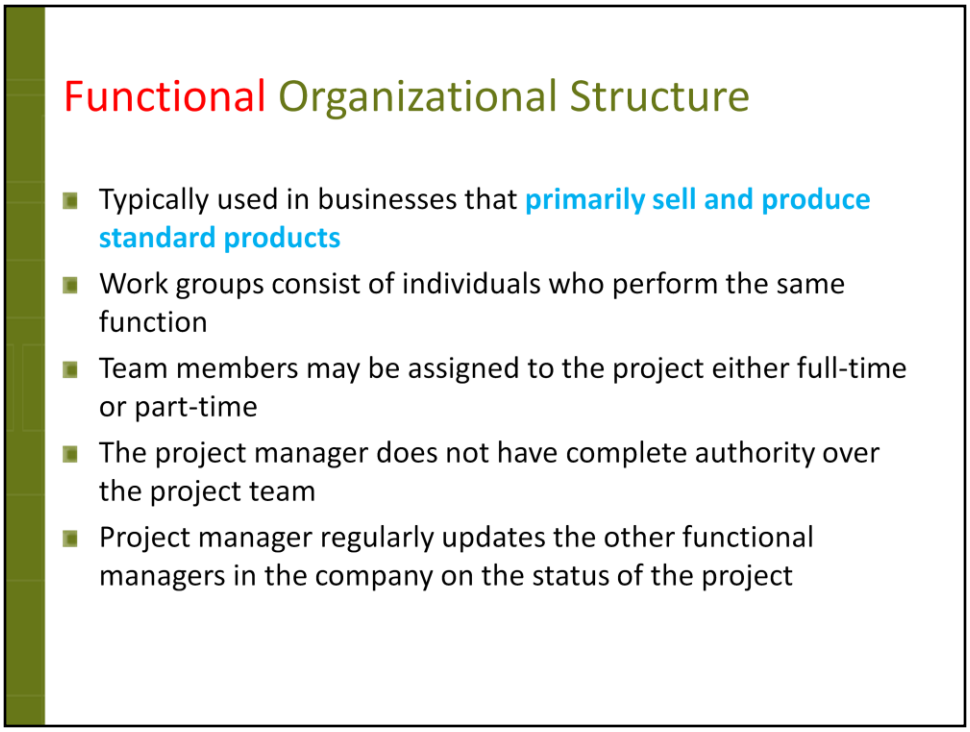


Vignette B: A Closer Look: Churchill Downs, Inc., Louisville, Kentucky, USA

- Churchill Downs racetrack is world famous for its annual Kentucky Derby, "the most exciting two minutes in sports." Projects at Churchill Downs and its four other racing facilities have historically been highly informal. They lacked oversight and proper benchmarking of results.
- Because of their informality and lack of oversight and benchmarking, the track had a poor history of completing projects on time and under budget
- They only used Microsoft Excel spreadsheets to help manage projects
- Each project had been a specialized effort– with no learning from previous projects
- No learning was shared across the organization

A new project management office for the IT department was created to deal with many of Churchill Downs' problems. This team came up with many different solutions.

- Developed lean processes to manage approval, prioritization, oversight, and measurement of results for major IT department projects
- Used the metaphor of a race track to model the processes
- Management decided that the IT department PMO should become an enterprise PMO
- Identify what was saved and the cost and value of a project
- Continually demonstrated the benefits of the PMO to the organization

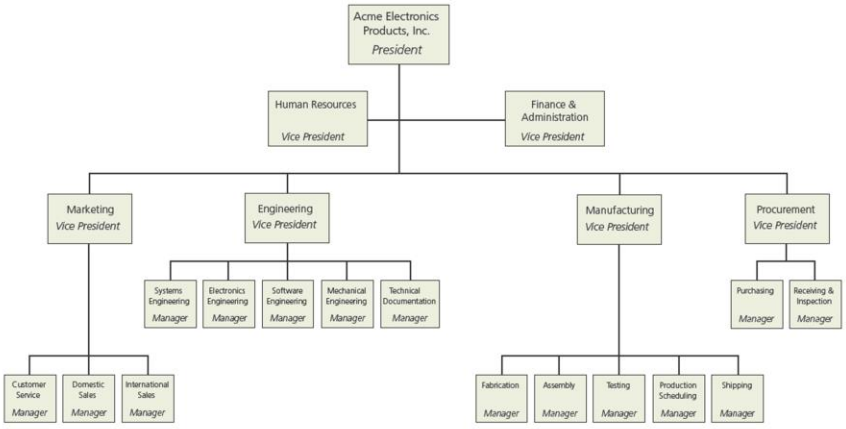


Functional Organizational Structure

- A functional organizational structure is typically used in businesses that primarily sell and produce standard products.
    - For example, a company that manufactures and sells digital recording devices.
- Work groups consist of individuals who all perform the same function, such as engineering or manufacturing.
- Each functional group concentrates on performing its own activities in support of the company's business mission.
- A company with a functional structure may periodically undertake projects, but these are typically in-house projects rather than projects for external customers.
    - For such projects, a multifunctional project team or task force is formed.
- Team members may be assigned to the project either full-time or part-time.
- In most cases, if an individual serves part-time on a project task force, the individual continues to perform his or her regular functional job.
- One of the team members is designated as the project leader or manager.
- In a functional-type organization, the project manager does not have complete authority over the project team because administratively the members still work for their respective functional managers.
- The project manager needs to take the time to regularly update the other functional managers in the company on the status of the project and thank them for the support of their people assigned to the task force.

Industrial Business Example: Functional Organizational Structure

FIGURE 13.1 Functional Organizational Structure



Industrial Business Example: Functional Organizational Structure

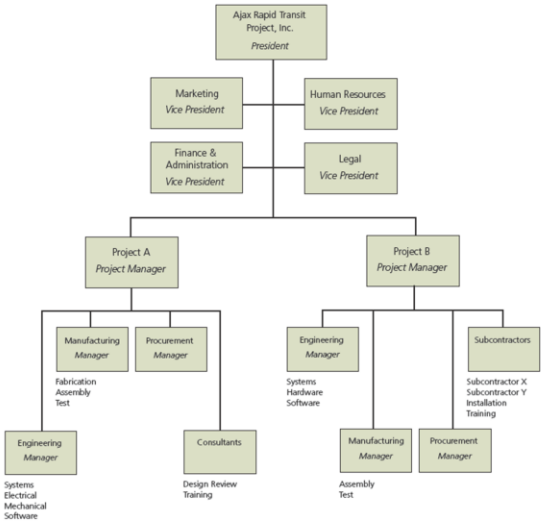
The figure on this slide depicts a functional organizational structure for an industrial business that sells standard electronics products.

Autonomous Project Organizational Structure

- Companies with an autonomous organizational structure are in the projects business; they do not produce standard products.
- They typically work on multiple projects at any given time.
- As projects are completed, the company continually hopes to get new contracts for projects.
- Each project team is dedicated to only one project.
- In the project-type organization, each project operates like a mini-company.
- All the resources needed to accomplish each project are assigned full-time to that project.
- A full-time project manager has complete project and administrative authority over the project team.
- A project-type organization can be cost-inefficient both for individual projects and for the company.
    - Each project must pay the salaries of its dedicated project team, even during parts of the project when they are not busy.
- There is little opportunity for members of different project teams to share knowledge or technical expertise, because each project team tends to be isolated.
- Project organization structures are found primarily in companies that are involved in very large projects.
    - Such projects can be of high (multimillion) dollar value and long (several years) duration.
- Project organization structures are prevalent in the construction and aerospace industries.
    - They are also used in the nonbusiness environment, such as for volunteer-managed projects.

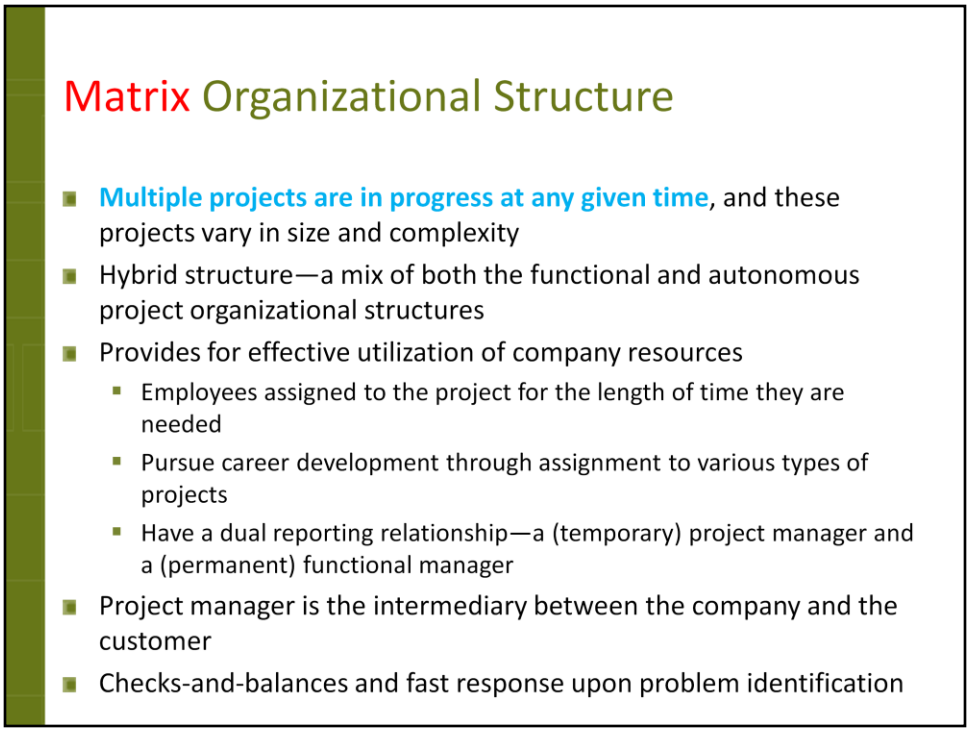
Rapid Transit Project Business Example: Autonomous Project Organizational Structure

FIGURE 13.2 Autonomous Project Organizational Structure



Rapid Transit Project Business Example: Autonomous Project Organizational Structure

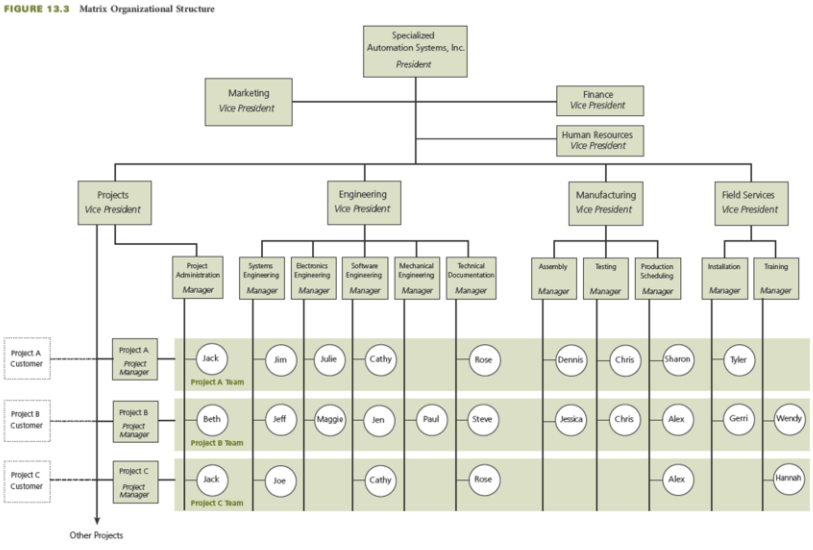
The figure on this slide depicts an autonomous project organizational structure for a business that sells rapid transit projects to cities and counties.



Matrix Organizational Structure

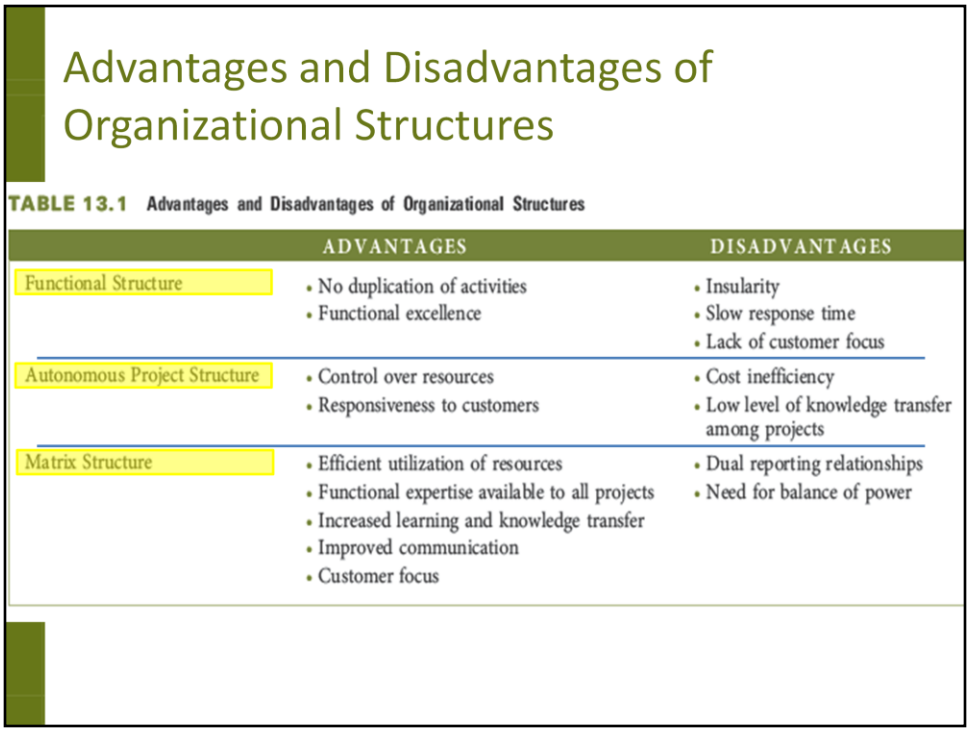
- With the matrix organizational structure, multiple projects are being worked on at any one time and these projects can vary greatly in size and complexity.
  - Projects are continually begun and finished
- The matrix organization is a hybrid—a mix of both the functional and project organization structures.
- It provides the project and customer focus of the project structure, but it retains the functional expertise of the functional structure.
- The project manager is responsible for the project results, while the functional managers are responsible for providing the resources needed to achieve the results.
- The matrix organization provides for effective utilization of company resources.
- Project managers come under the projects component of the organization.
- When the company receives an order for a new system, the vice president of projects assigns a project manager to the project.
  - A small project may be assigned to a project manager who is already managing several other small projects.
  - A large project may be assigned a full-time project manager.
- Individuals are assigned to the project for the length of time they are needed.
- Some individuals may be assigned to the project full-time, while others may be assigned only part-time.
- Some people may be assigned to a project for its entire duration; others may work on only one part of the project.
- Sharing of individuals' time across several projects results in effective utilization of resources and minimizes the overall costs for each project.
  - The objective is to maximize the number of functional person-hours applied to work on projects and minimize the unapplied time.
- The company always needs to have new projects coming in as other projects are completed in order to maintain a high applied-time rate for the functional staff.
- Individuals can pursue career development through assignment to various types of projects.
  - As they broaden their experience, individuals become more valuable for future assignments.
- Each member of a project team has a dual reporting relationship; in a sense, each member has two managers—a (temporary) project manager and a (permanent) functional manager.
- The project manager is the intermediary between the company and the customer.
  - She or he is responsible for leading the development of the project plan, establishing the project schedule and budget, and allocating specific tasks and budgets.
- Each functional manager in a matrix organization structure is responsible for how the assigned work tasks will be accomplished and who (which specific people) will do each task.
- The matrix organization provides checks-and-balances and a fast response upon problem identification because it has both a horizontal (project) and a vertical (functional) path for the flow of information.

Custom Computer-Based Automation Systems Example: Matrix Organizational Structure



Custom Computer-Based Automation Systems Example: Matrix Organizational Structure

The figure on this slide depicts a matrix organizational structure for a business that sells custom computer-based automation systems.

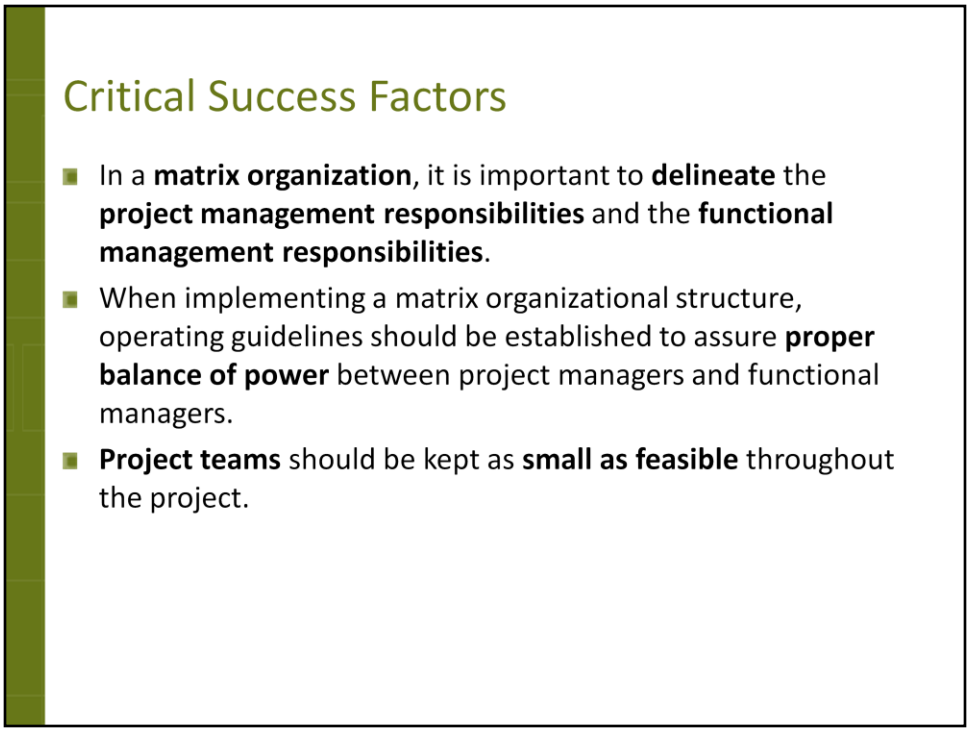


Advantages and Disadvantages of Organizational Structures
Here you see a table that depicts the advantages and disadvantages of the different types of organizational structures.

Functional Organizational Structure:
- Advantages:
  - A functional-type organization removes potential for duplication and overlap of activities.
  - It provides the benefits associated with specialization and functional excellence.
- Disadvantages:
  - Functional-type organizations can be insular, with each component only concerned about its own performance.
  - Teamwork is not emphasized; there is little cross-fertilization of ideas.
  - Decisions may be parochial rather than in the best interests of the overall project.
  - The hierarchical structure causes communication and problem resolution problems, and decision making can be slow.
  - There is a lack of customer focus.
  - There is a stronger allegiance to the function than to the project or the customer.

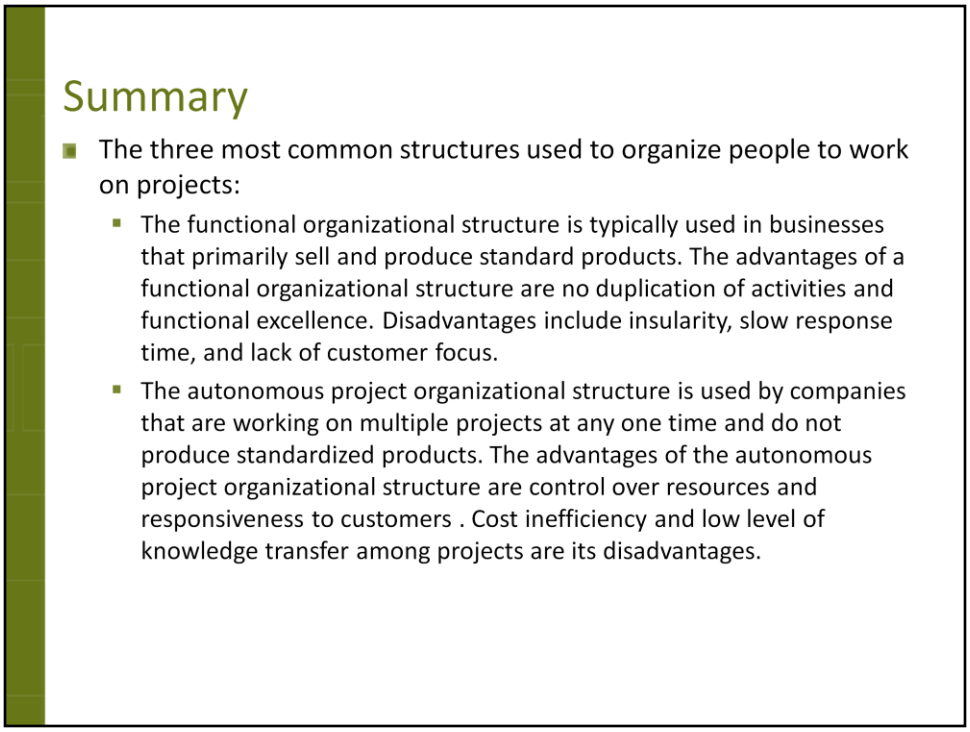
Autonomous Project Organizational Structure
- Advantages:
  - The project team has full control over the resources, including authority over how the work gets completed and by whom.
  - The project organization is highly responsive to the customer.
- Disadvantages:
  - This structure can be cost-inefficient because of underutilization of resources. When things are slow, individuals have a tendency to stretch out their work to fill up the time available or if they do not have any tasks to do for temporary periods, they still must be paid by the company.
  - There is a potential for duplication of activities on several concurrent projects.
  - There is a low level of knowledge transfer between projects.
  - Individuals are dedicated to working on one project.
  - At the end of a project, people may be laid off if there is no new project to which they can be assigned, leading to team members to experience high anxiety about reassignment.

Matrix Organizational Structure
- Advantages:
  - It allows efficient utilization of resources by assigning individuals from various functions to work on specific projects.
  - Because they have a functional home, individuals can be moved between projects.
  - It provides a core of functional expertise that is available to all projects.
  - Knowledge stays with the company, ready to be used on future projects.
  - People experience greater learning and growth, and their knowledge and skills are transferred from project to project.
  - The matrix structure also facilitates information flow.
  - Project team members can inform the project manager and the functional manager.
  - The matrix organization is customer focused.
- Disadvantages:
  - Members of a project team in a matrix organization structure have a dual reporting relationship, which can cause anxiety and conflict over work priorities.
  - A company that uses a matrix organization structure must establish operating guidelines to assure a proper balance of power between project managers and functional managers.
  - Conflicts are likely to arise between project managers and functional managers regarding priorities.



Critical Success Factors

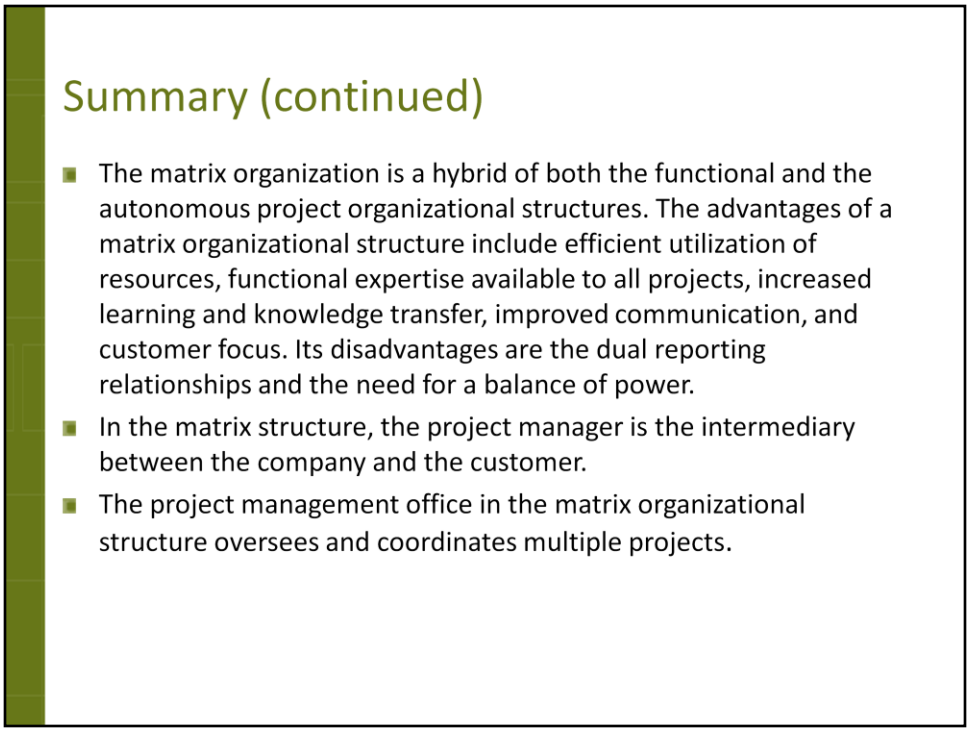
- In a *matrix organization*, it is important to *delineate* the *project management responsibilities* and the *functional management responsibilities*.
- When implementing a matrix organizational structure, operating guidelines should be established to assure *proper balance of power* between project managers and functional managers.
- *Project teams* should be kept as *small as feasible* throughout the project.



Summary

The three most common structures used to organize people to work on projects are *functional*, *autonomous* project, and *matrix* organizational structures.

- The *functional organizational* structure is typically used in businesses that primarily sell and produce standard products. The advantages of a functional organizational structure are *no duplication of activities* and *functional excellence*. Disadvantages include *insularity*, *slow response time*, and *lack of customer focus*.
- The *autonomous project organizational* structure is used by companies that are working on multiple projects at any one time and do not produce standardized products. The advantages of the autonomous project organizational structure are *control over resources and responsiveness to customers*. *Cost inefficiency* and *low level of knowledge transfer* among projects are its disadvantages.



Summary (continued)

- The *matrix organization* is a hybrid of both the functional and the autonomous project organizational structures. The advantages of a matrix organizational structure include *efficient utilization of resources, functional expertise available to all projects, increased learning and knowledge transfer, improved communication,* and *customer focus*. Its disadvantages are the *dual reporting relationships* and the *need for a balance of power*.
- In the matrix structure, the *project manager* is the *intermediary* between the company and the customer.
- The *project management office* in the matrix organizational structure *oversees* and *coordinates multiple projects*.