Organizational Structure

Influence

Authority of Project Manager

How Projects are Conducted?

Project Management in Practice

Reorganizing for Project Management at Prevost Car

At Prevost Car in Quebec City, Canada, the vice-president (VP) of production was told that he would have to expand production capacity 31 percent in the next 5 months. In the past, such a task would start with a bulldozer the next day and the work would be under way, but no one knew at what cost, what timetable, or what value to the firm. Realizing that he needed some fresh ideas, a structured approach, and that there was no allowance for a mistake, the VP contacted a project management consulting firm to help him.

The consulting firm set up a 5-day meeting between their project managers, a value engineering expert, and the seven foremen from Prevost's main factory to scope out the project. The group produced a report for senior management outlining a $10 million project to expand the main factory by 60,000 square feet, and a follow-on potential to make a further expansion of 20 percent more. The detail of the plan came as a revelation to top management who approved it after only 2 days of study. After it was completed on time and on budget, the firm also committed to the additional 20 percent expansion, which also came in as planned.

The success of this project resulted in "infecting" Prevost Car with the project management "bug." The next major task, an initiative to reduce workplace injuries, was thus organized as a project and was also highly successful. Soon, all types of activities were being handled as projects at Prevost. The use of project management in manufacturing firms is highly appropriate given their need to adapt quickly to ferocious international competition, accelerating technological change, and rapidly changing market conditions. In addition, Prevost has found that project management encourages productive cooperation between departments, fresh thinking and innovation, team approaches to problems, and the highly valued use of outside experts to bring in new ideas, thereby breaking current short-sighted habits and thinking. As Prevost's VP states: "Right now it's a question of finding what couldn't be better managed by project."

- ✓ Cooperation between depts.
- ✓ Fresh thinking & innovation
- ✓ Team approaches to problems
- ✓ Use of outside experts

Source: M. Gagne, "Prevost Car—The Power of Project Management," *PM Network*, Vol. 11.

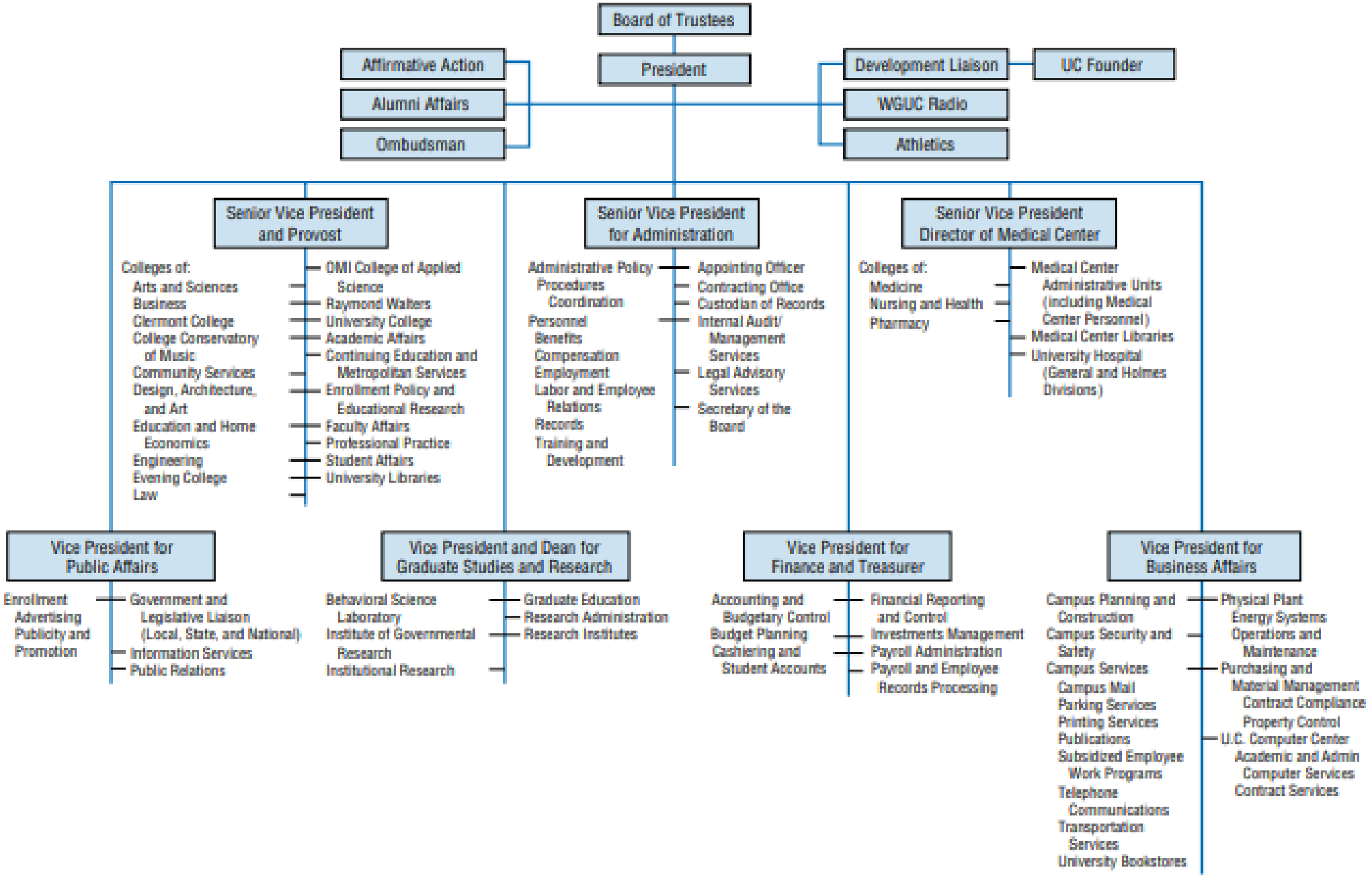
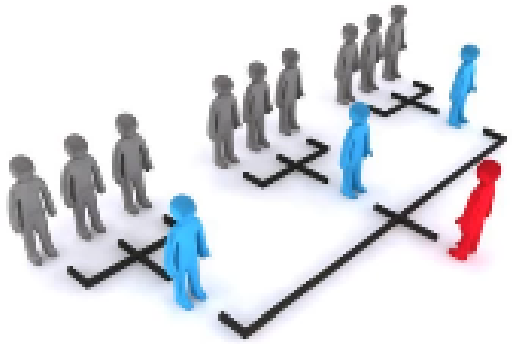


FIGURE 5.1 University of Cincinnati organization chart.

Organizational Structure



- Functional
- Projectized
- Matrix
  - Strong
  - Balanced
  - Weak

Project Manager Authority & Organizational Structures

Projectized

Authority

Project manager

Authority

Weak matrix

Balanced matrix

Authority

Strong matrix

Functional

Authority

Functional manager

Authority

Functional Organizational

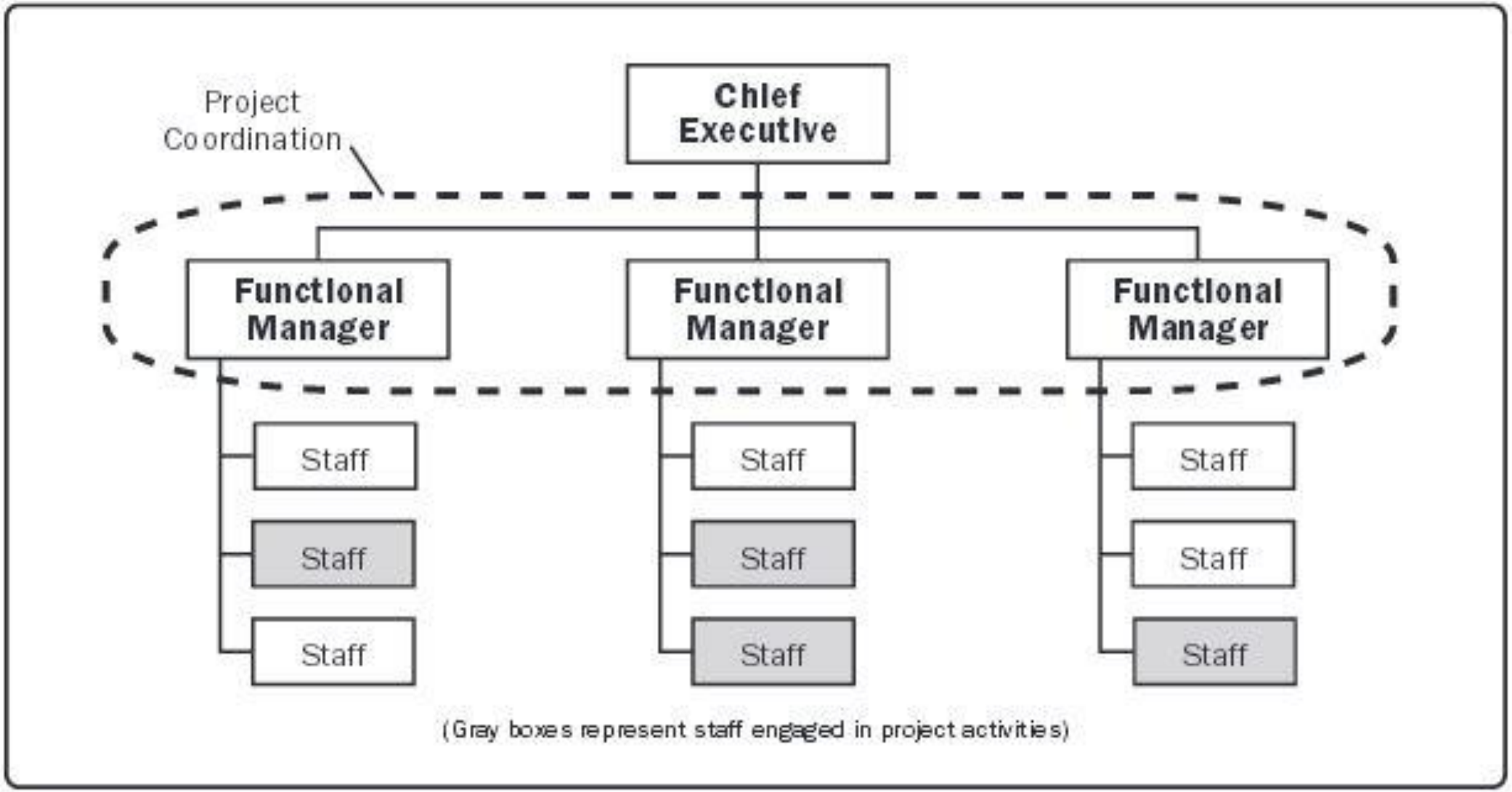
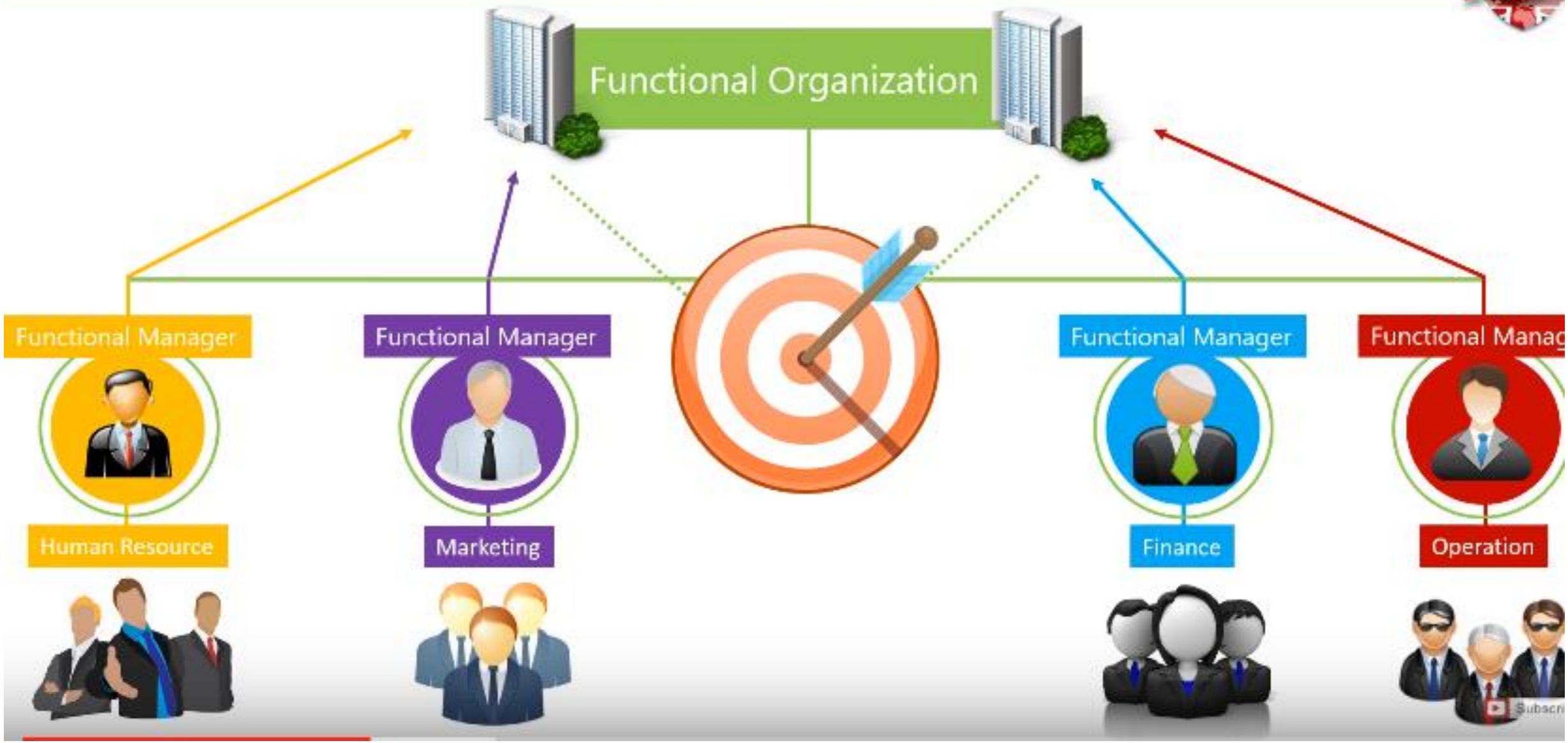
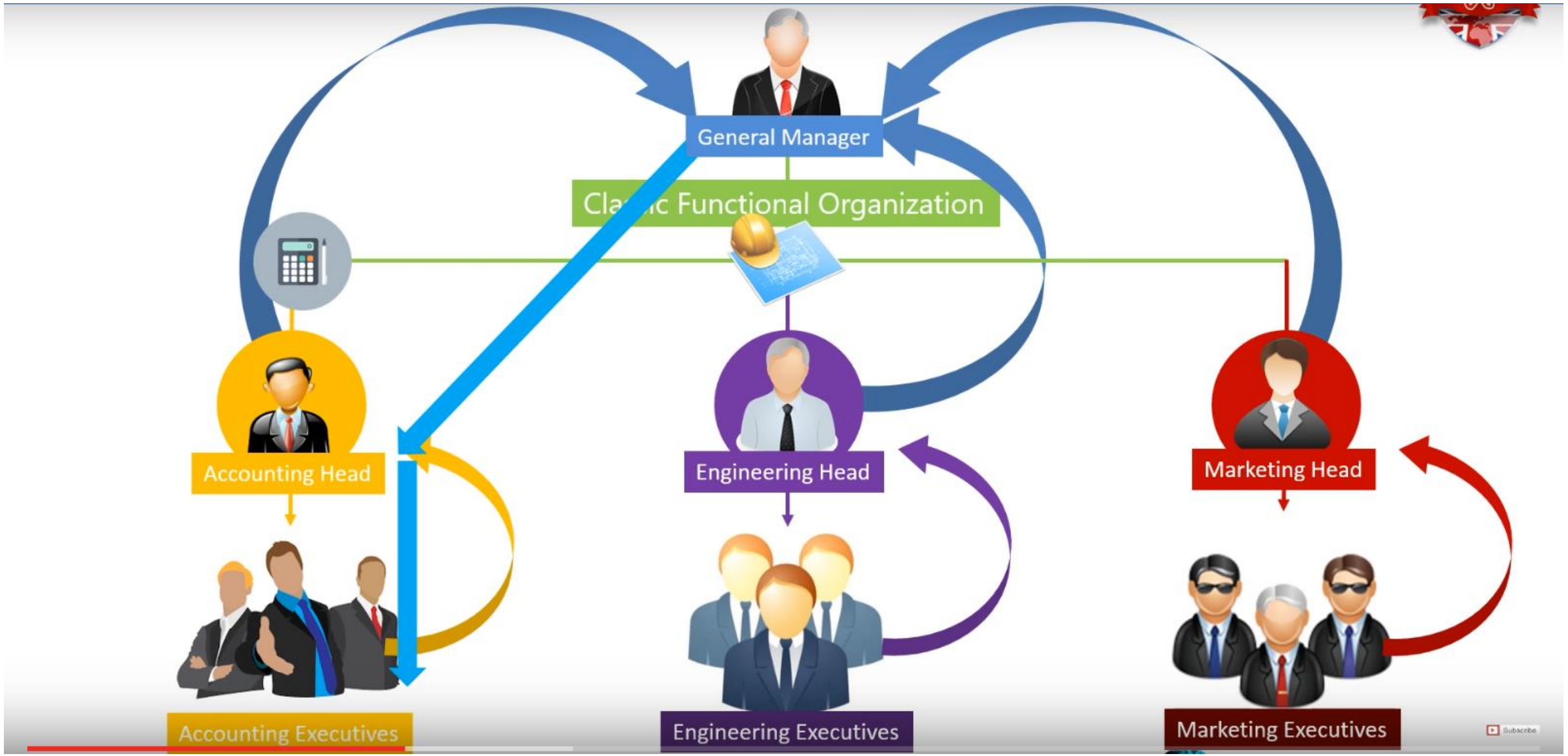


Figure 2-1. Functional Organization

Functional Organization



Classic Functional Organization



Advantages and Disadvantages of a Functional Organization

Advantages

Stable Organizations Structure

Employees have a career growth path with separation of functions

Employees have one supervisor with a clear chain of command

Disadvantages

Project manager has little to no formal authority

Multiple projects compete for limited resources and priority

Project team members will likely to remain loyal to their functional manager

Advantages of Functional Organization

1. Flexibility in the use of staff and experts
2. Utilization of Individual experts
3. Grouping specialists
4. Technological Continuity
5. Professional growth and advancement

1. There is maximum flexibility in the use of staff. If the proper functional division has been chosen as the project's home, the division will be the primary administrative base for individuals with technical expertise in the fields relevant to the project. Experts can be temporarily assigned to the project, make the required contributions, and immediately be reassigned to their normal work.
2. Individual experts can be utilized by many different projects. With the broad base of technical personnel available in the functional divisions, people can be switched back and forth between the different projects with relative ease.
3. Specialists in the division can be grouped to share knowledge and experience. Therefore, the project team has access to whatever technical knowledge resides in the functional group. This depth of knowledge is a potential source of creative, synergistic solutions to technical problems.
4. The functional division also serves as a base of technological continuity when individuals choose to leave the project, and even the parent firm. Perhaps just as important as technological continuity is the procedural, administrative, and overall policy continuity that results when the project is maintained in a specific functional division of the parent firm.
5. Finally, and not the least important, the functional division contains the normal path of advancement for individuals whose expertise is in the functional area. The project may be a source of glory for those who participate in its successful completion, but the functional field is their professional home and the focus of their professional growth and advancement.

Disadvantages of Functional Organization

1. Client is not the focus
2. Particular function oriented activities
3. No individual is given full responsibility
4. Slow response to the client
5. Sub-optimization tendency
6. Project is not the mainstream of activity
7. Slow cross-divisional communication

1. A primary disadvantage of this arrangement is that the client is not the focus of activity and concern. The functional unit has its own work to do, which usually takes precedence over the work of the project, and hence over the interests of the client.
2. The functional division tends to be oriented toward the activities particular to its function. It is not usually problem oriented in the sense that a project should be to be successful.
3. Occasionally in functionally organized projects, no individual is given full responsibility for the project. This failure to pinpoint responsibility usually means that the PM is made accountable for some parts of the project, but another person is made accountable for one or more other parts. Little imagination is required to forecast the lack of coordination and chaos that results.
4. The same reasons that lead to lack of coordinated effort tend to make response to client needs slow and arduous. There are often several layers of management between the project and the client.
5. There is a tendency to suboptimize the project. Suboptimization occurs when one part of the organization is optimized to the detriment of the overall organization. Project issues that are directly within the interest area of the functional home may be dealt with carefully, but those outside normal interest areas may be given short shrift, if not totally ignored.
6. The motivation of people assigned to the project tends to be weak. The project is not in the mainstream of activity and interest, and some project team members may view service on the project as a professional detour.
7. Such an organizational arrangement does not facilitate a holistic approach to the project. Complex technical projects such as the development of a jet aircraft or an emergency room in a hospital simply cannot be well designed unless they are designed as a totality. No matter how good the intentions, no functional division can avoid focusing on its unique areas of interest. Cross-divisional communication and sharing of knowledge is slow and difficult at best.

Projectized organization

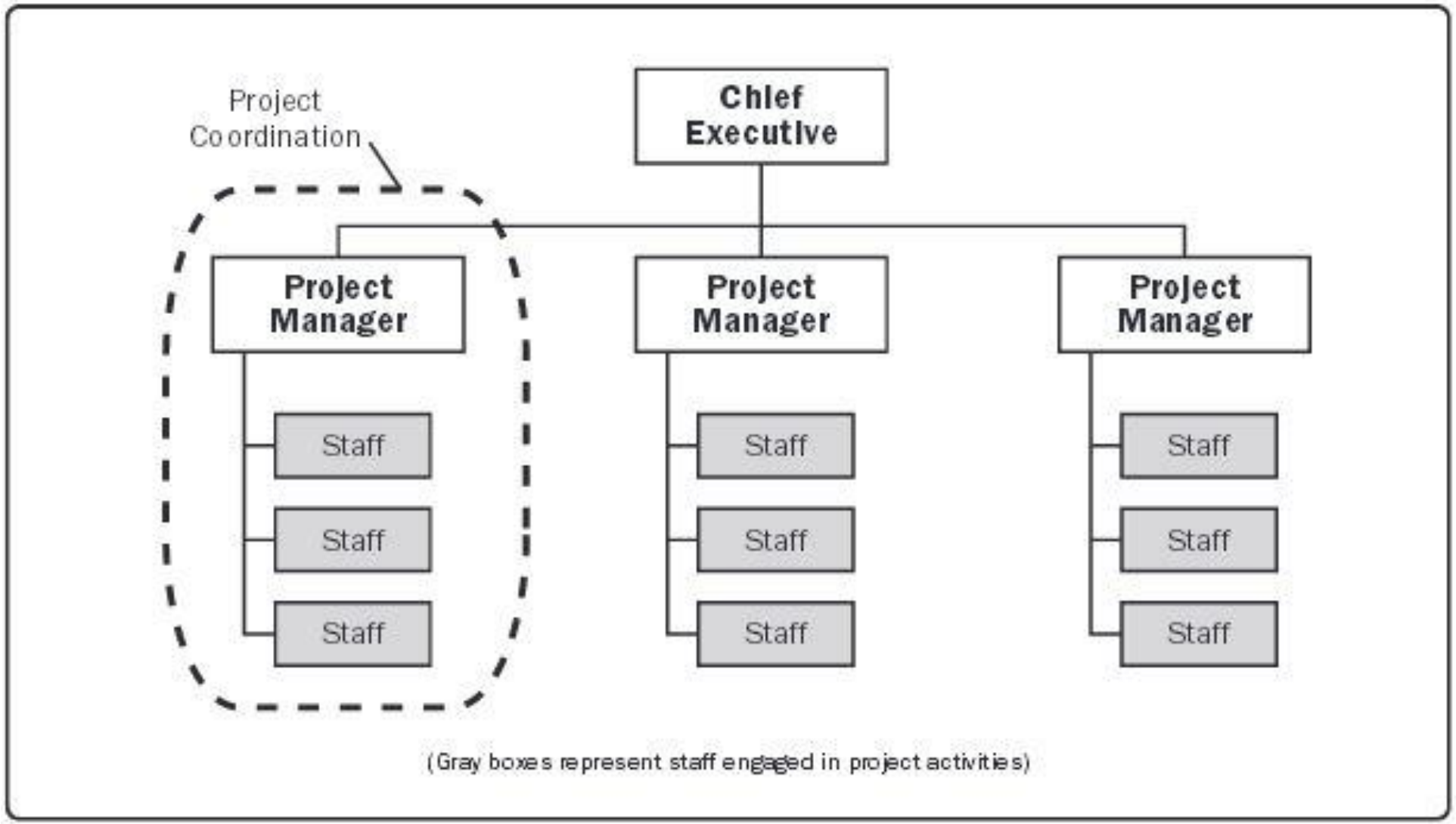
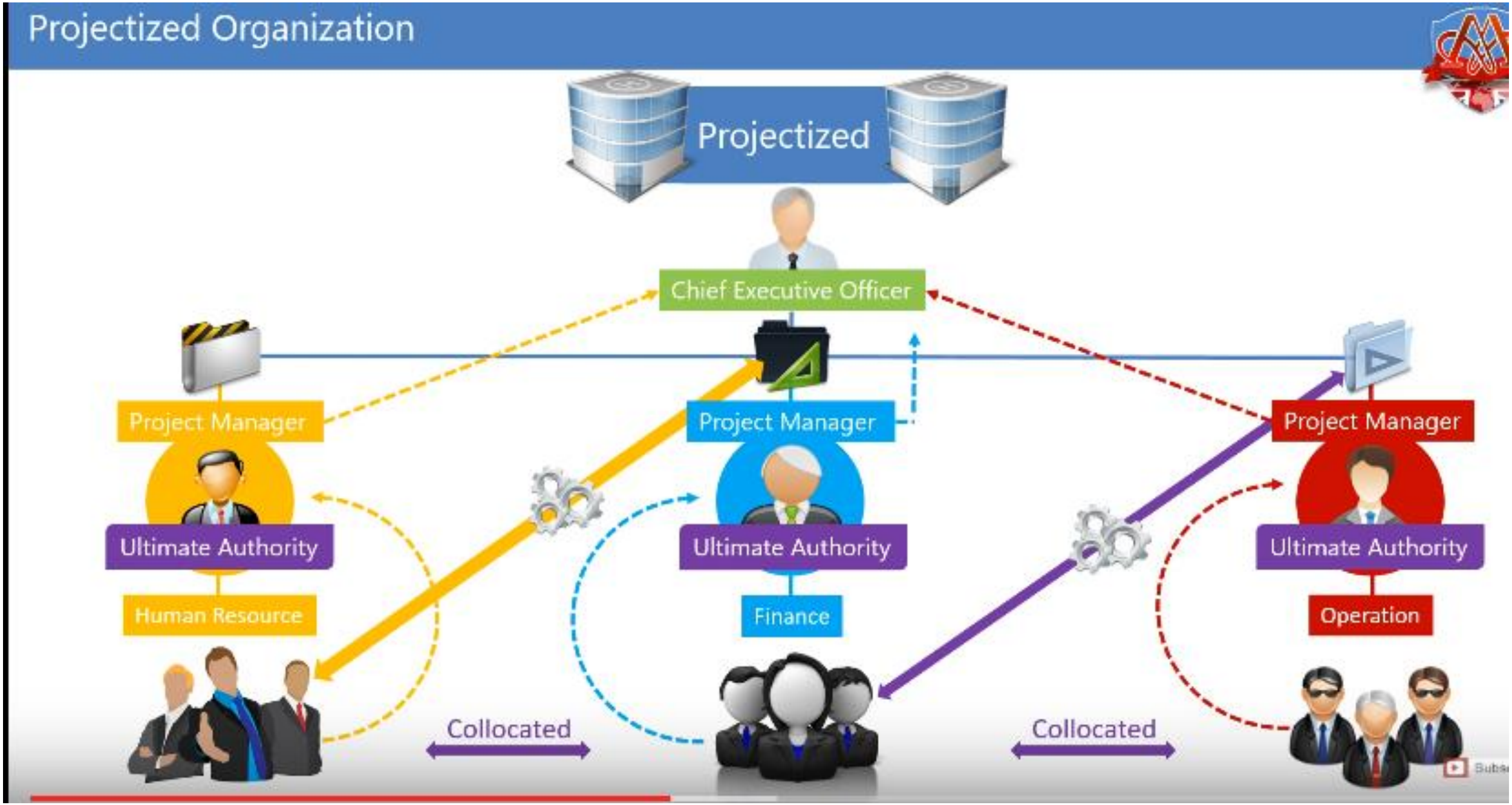


Figure 2-5. Projectized Organization

Projectized Organization



Advantages and Disadvantages of a Projectized Organization

Advantages

It has Clear line of authority

Strong communication with single reporting system

Flexibility in trade offs, and Fast decision making

Disadvantages

Authority & power can make project manager arrogant

The work environment can be stressful, because there is always a deadline

If the project gets elongated, cost of employee and equipment can go higher

Advantages of Projectized Organization

1. Complete workforce devoted to the project.
2. PM is truly the project director.
3. Faster communication
4. Flexibility in permanent cadre of experts

1. The project manager has full line authority over the project. Though the PM must report to a senior executive in the parent organization, there is a complete work force devoted to the project. The PM is like the CEO of a firm that is dedicated to carrying out the project.
2. All members of the project work force are directly responsible to the PM. There are no functional division heads whose permission must be sought or whose advice must be heeded before making technological decisions. The PM is truly the project director.
3. When the project is removed from the functional division, the lines of communication are shortened. The entire functional structure is bypassed, and the PM communicates directly with senior corporate management. The shortened communication lines result in faster communications with fewer communication failures.
4. When there are several successive projects of a similar kind, the projectized organization can maintain a more or less permanent cadre of experts who develop considerable skill in specific technologies. Indeed, the existence of such skill pools can attract customers to the parent firm. Lockheed's famous "Skunk Works" was such a team of experts who took great pride in their ability to solve difficult engineering problems. The group's name, taken from the Li'l Abner comic strip, reflects the group's pride, irreverent attitude, and strong sense of identity.

Advantages of Projectized Organization

5. High level of commitment.
6. Fast response to client & senior management.
7. Unity of command.
8. Simple and flexible.
9. Sub-optimization & focusing on total project.

5. The project team that has a strong and separate identity of its own tends to develop a high level of commitment from its members. Motivation is high and acts to foster the task orientation discussed in Chapter 3.

6. Because authority is centralized, the ability to make swift decisions is greatly enhanced. The entire project organization can react more rapidly to the requirements of the client and the needs of senior management.

7. Unity of command exists. While it is easy to overestimate the value of this particular organizational principle, there is little doubt that the quality of life for subordinates is enhanced when each subordinate has one, and only one, boss.

8. Projectized organizations are structurally simple and flexible, which makes them relatively easy to understand and to implement.

9. The organizational structure tends to support a holistic approach to the project. A brief explanation of the systems approach was given in Chapter 3, and an example of the problems arising when the systems approach is not used appears in Section 5.3 of this chapter. The dangers of suboptimization or focusing on and optimizing the project's subsystems rather than the total project are often a major cause of technical failure in projects.

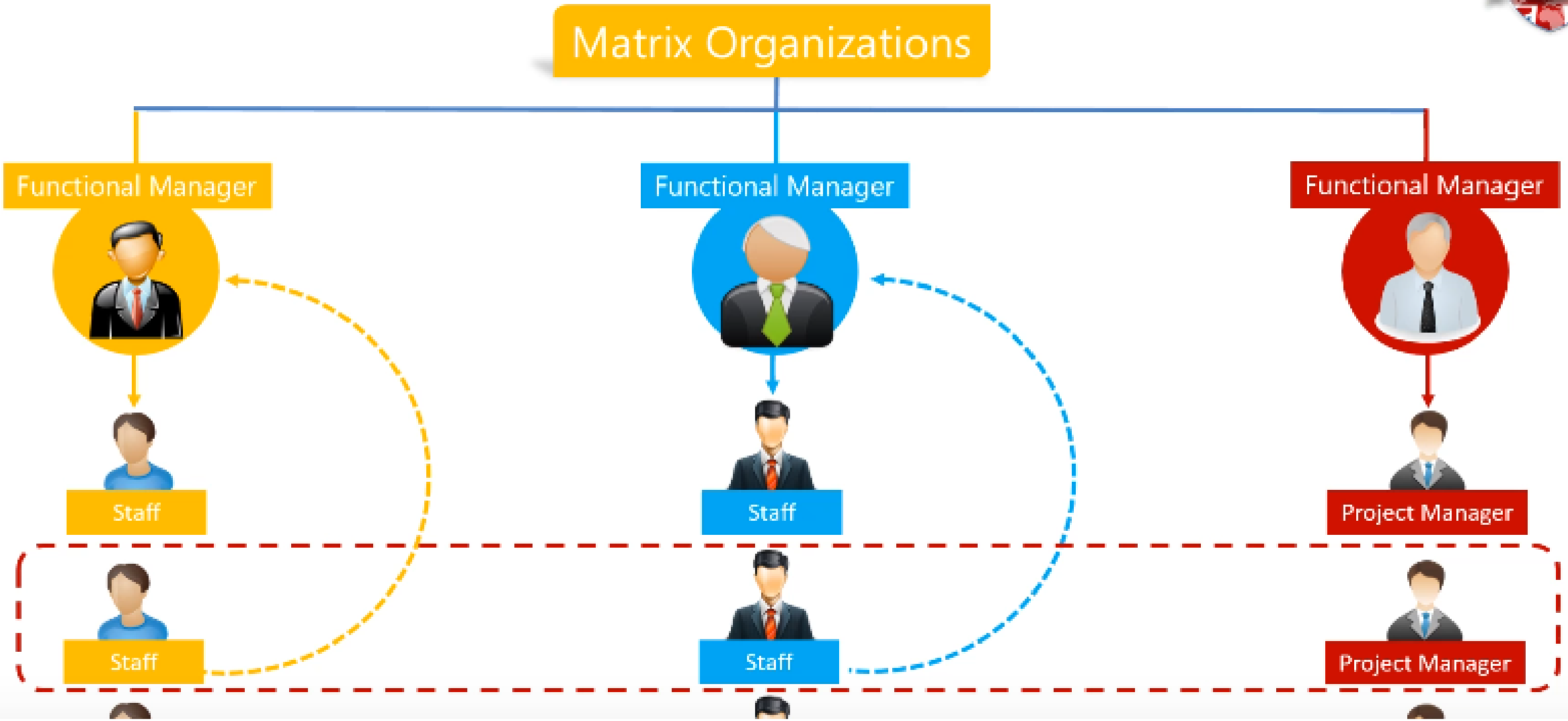
Disadvantages

1. Duplication of technical and management staff
2. Hiring staff with critical technical skills for longer durations.
3. Eliminating functional departments- critical to the ‘High Technology’ projects.
4. Inconsistency in carrying out policies and procedures.
5. Development of ‘Projectitis’.
6. ‘Life after the project ends’ – worry.

1. When the parent organization takes on several projects, it is common for each one to be fully staffed. This can lead to considerable duplication of effort in every area from clerical staff to the most sophisticated (and expensive) technological support units. If a project does not require a full-time personnel manager, for example, it must have one nonetheless because personnel managers come in integers, not fractions, and staff is usually not shared across projects.
2. In fact, the need to ensure access to technological knowledge and skills results in an attempt by the PM to stockpile equipment and technical assistance in order to be certain that it will be available when needed. Thus, people with critical technical skills may be hired by the project when they are available rather than when they are needed. Similarly, they tend to be maintained on the project longer than needed, “just in case.” Disadvantages 1 and 2 combine to make this way of organizing projects very expensive.
3. Removing the project from technical control by a functional department has its advantages, but it also has a serious disadvantage if the project is characterized as “high technology.” Though individuals engaged with projects develop considerable depth in the technology of the project, they tend to fall behind in other areas of their technical expertise. The functional division is a repository of technical lore and is well positioned to advance the state-of-the-art in the discipline, but it is not readily accessible to members of the standalone project team.
4. Projectized project teams seem to foster inconsistency in the way in which policies and procedures are carried out. In the relatively sheltered environment of the project, administrative corner-cutting is common and easily justified as a response to the client or to technical exigency. “They don’t understand our problems” becomes an easy excuse for ignoring dicta from headquarters.
5. In projectized organizations, the project takes on a life of its own. Team members form strong attachments to the project and to each other. A disease known as *projectitis* develops. A strong “we–they” divisiveness grows, distorting the relationships between project team members and their counterparts in the parent organization. Friendly rivalry may become bitter competition, and political infighting between projects is common.
6. Another symptom of projectitis is the worry about “life after the project ends.” Typically, there is considerable uncertainty about what will happen when the project is completed. Will team members be laid off? Will they be assigned to low-prestige work? Will their technical skills be too rusty to be successfully integrated into other projects? Will our team (“that old gang of mine”) be broken up?

Matrix Organizations

Matrix Organizations



Weak matrix organizations

- similar to functional organization
- project manager: functions as expeditor or coordinator
- project expeditor: works as staff assistant and communications coordinator but does not make or enforce decisions
- project coordinator: makes some decisions, has some authority, and reports to a higher-level manager

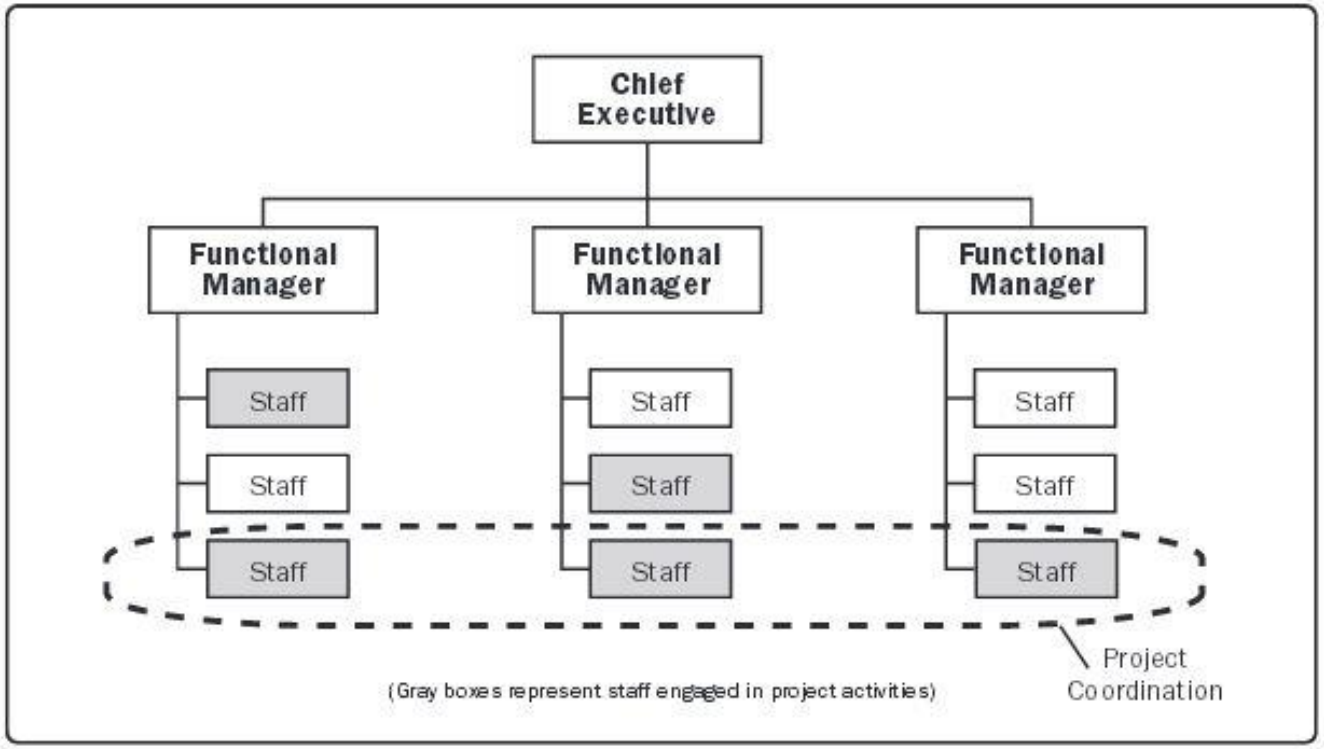
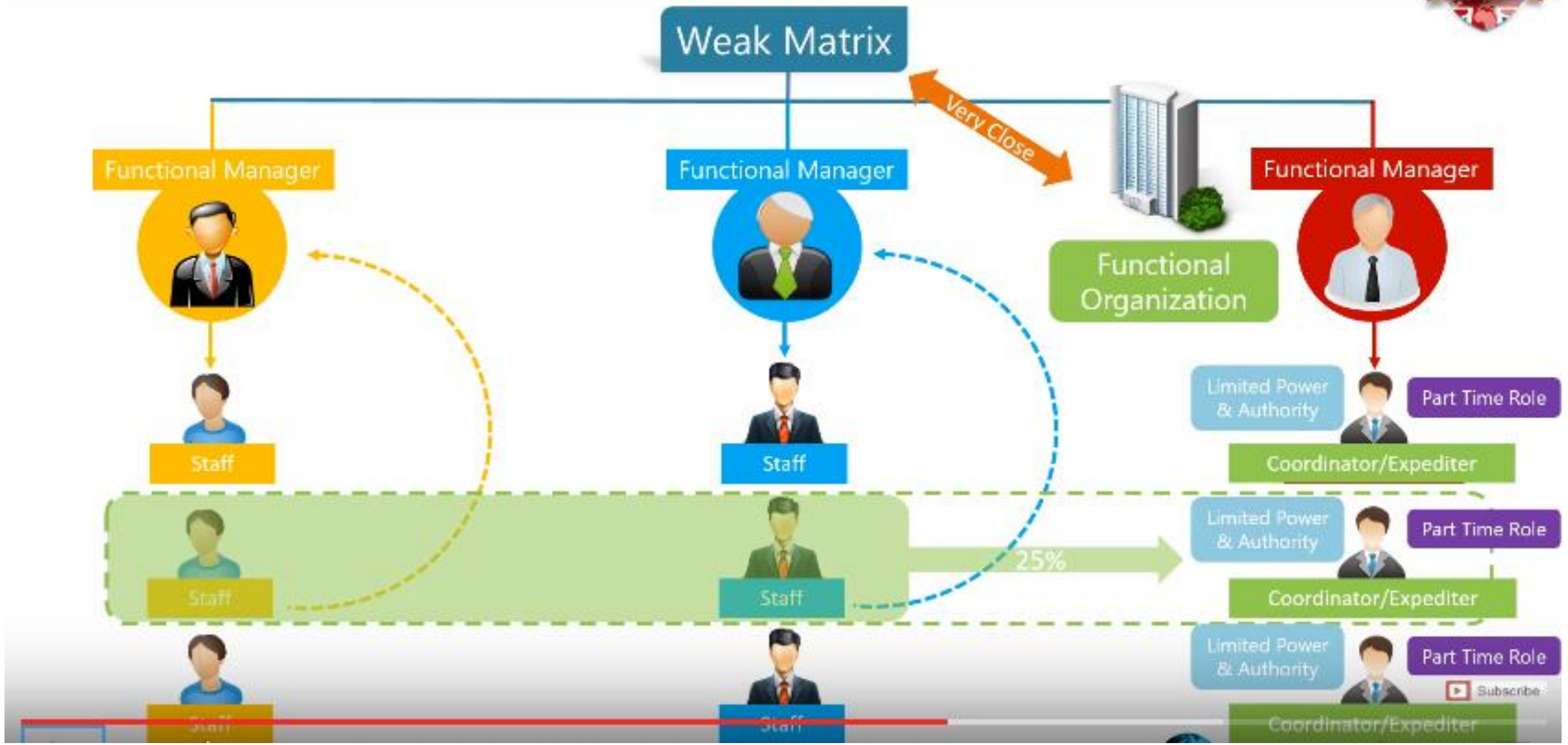


Figure 2-2. Weak Matrix Organization

Matrix Organizations



Strong matrix organizations

- similar to project organization
- have full-time project managers with considerable authority
- full-time project administrative staff

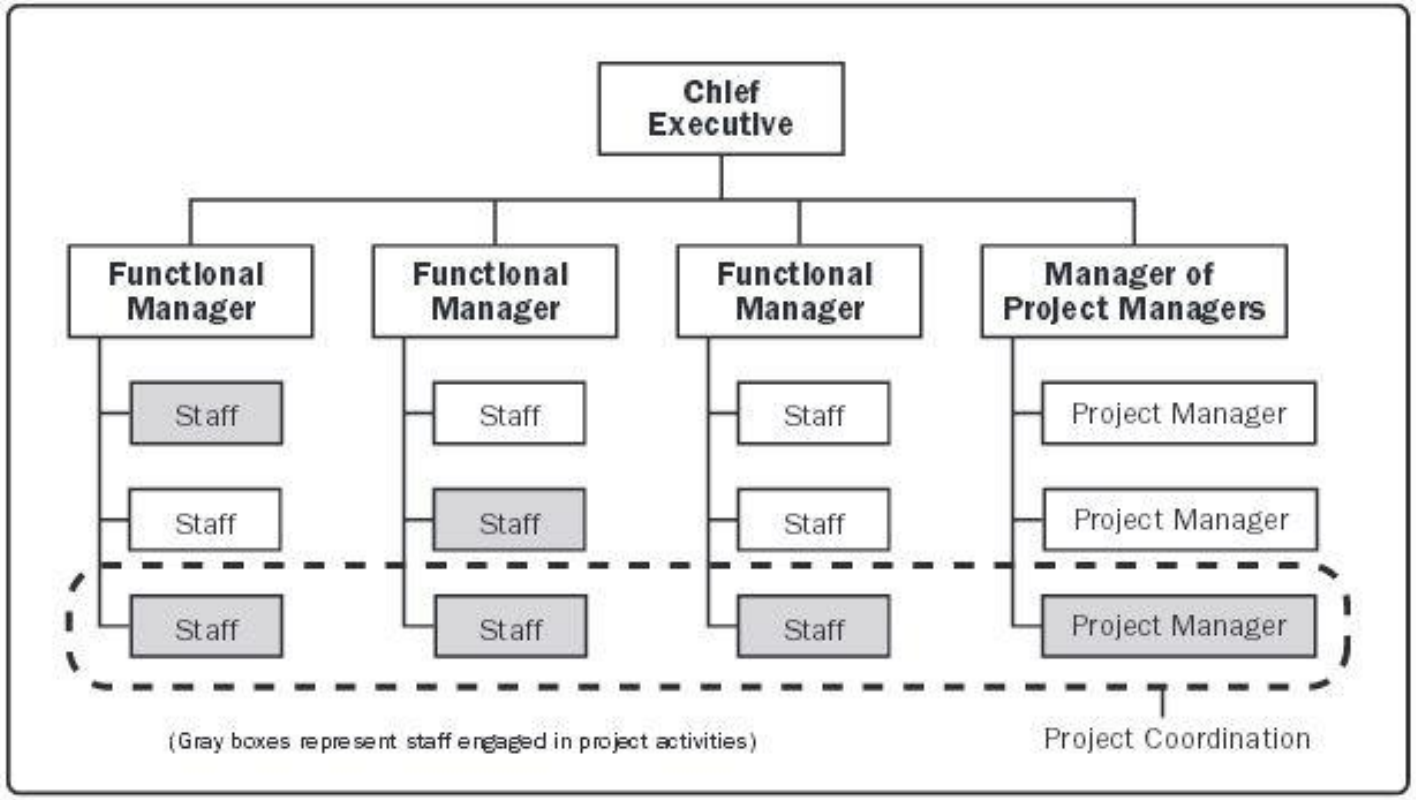
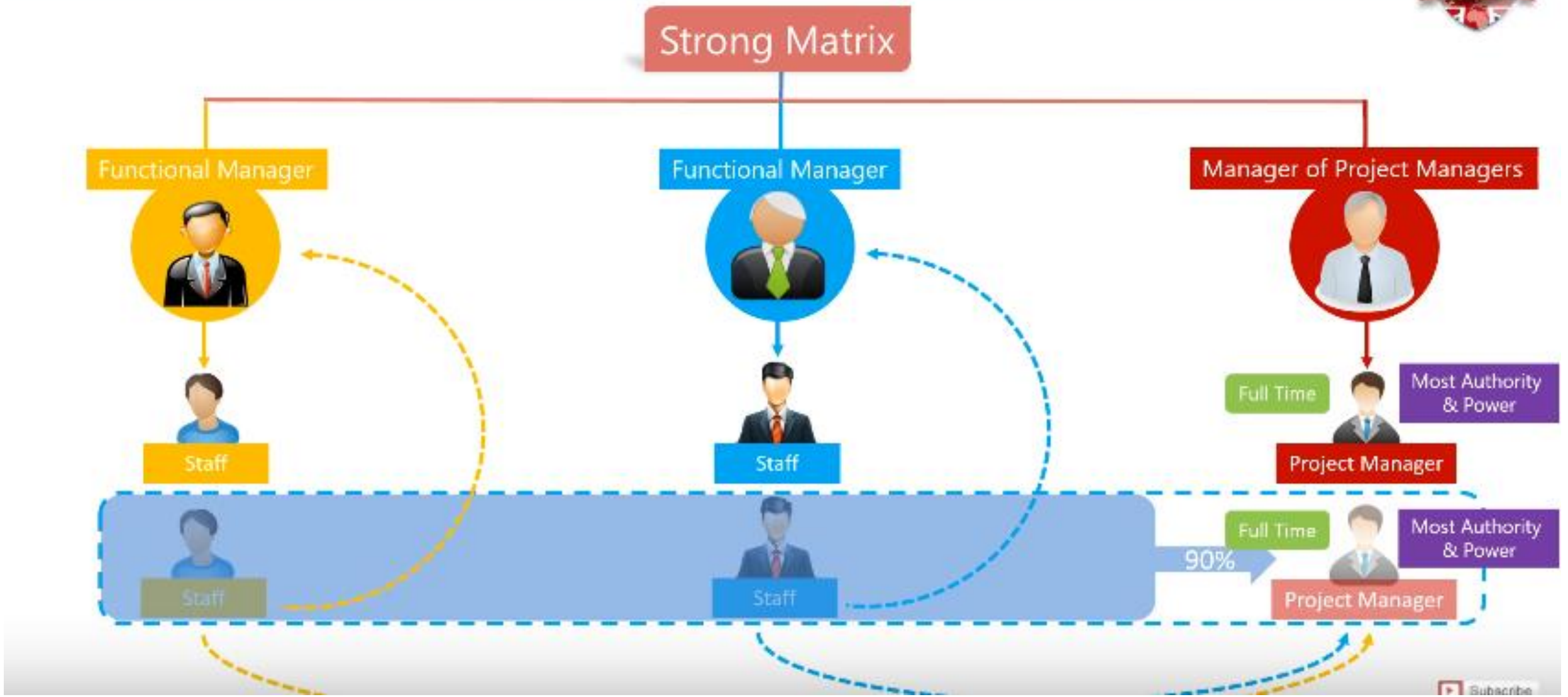


Figure 2-4. Strong Matrix Organization

Matrix Organizations



Balanced matrix organization

- recognizes the need for a project manager
- neither provides the project manager with full authority over the project nor over project funding

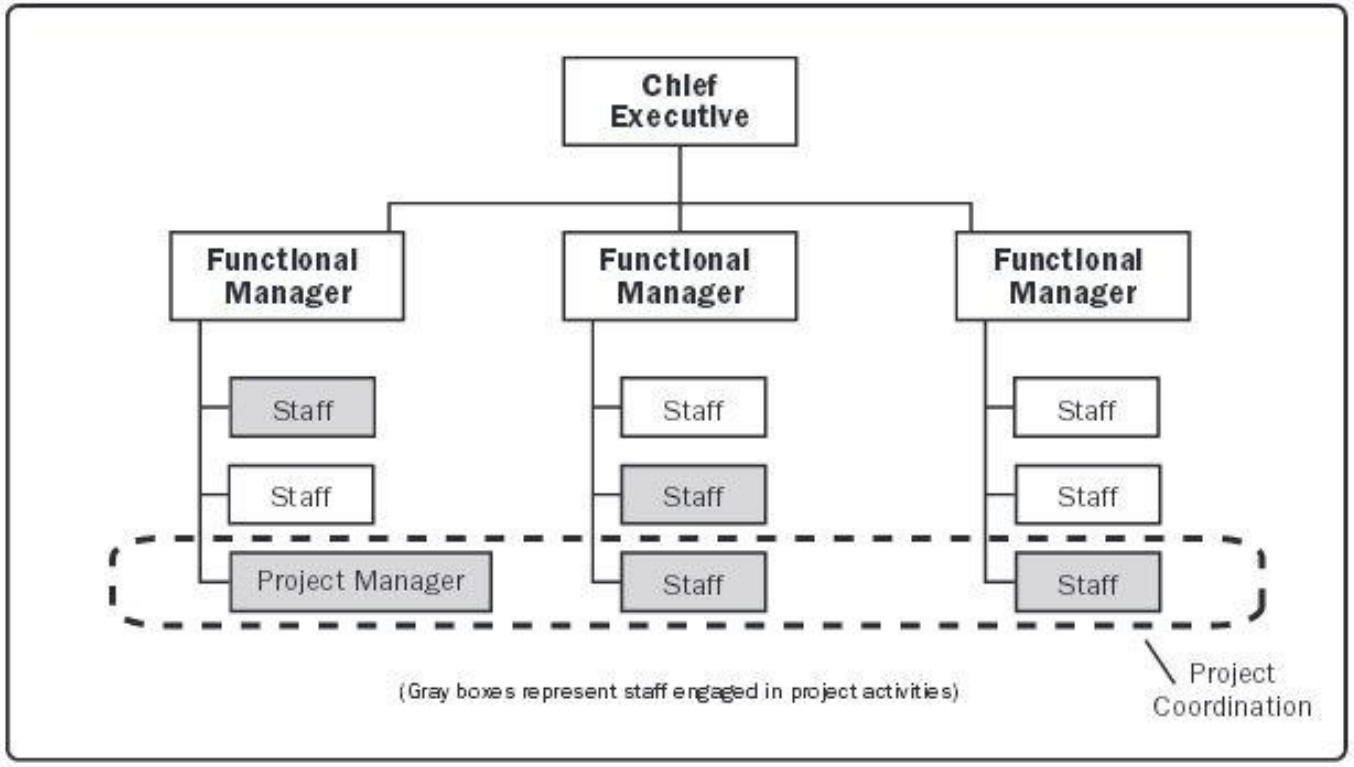
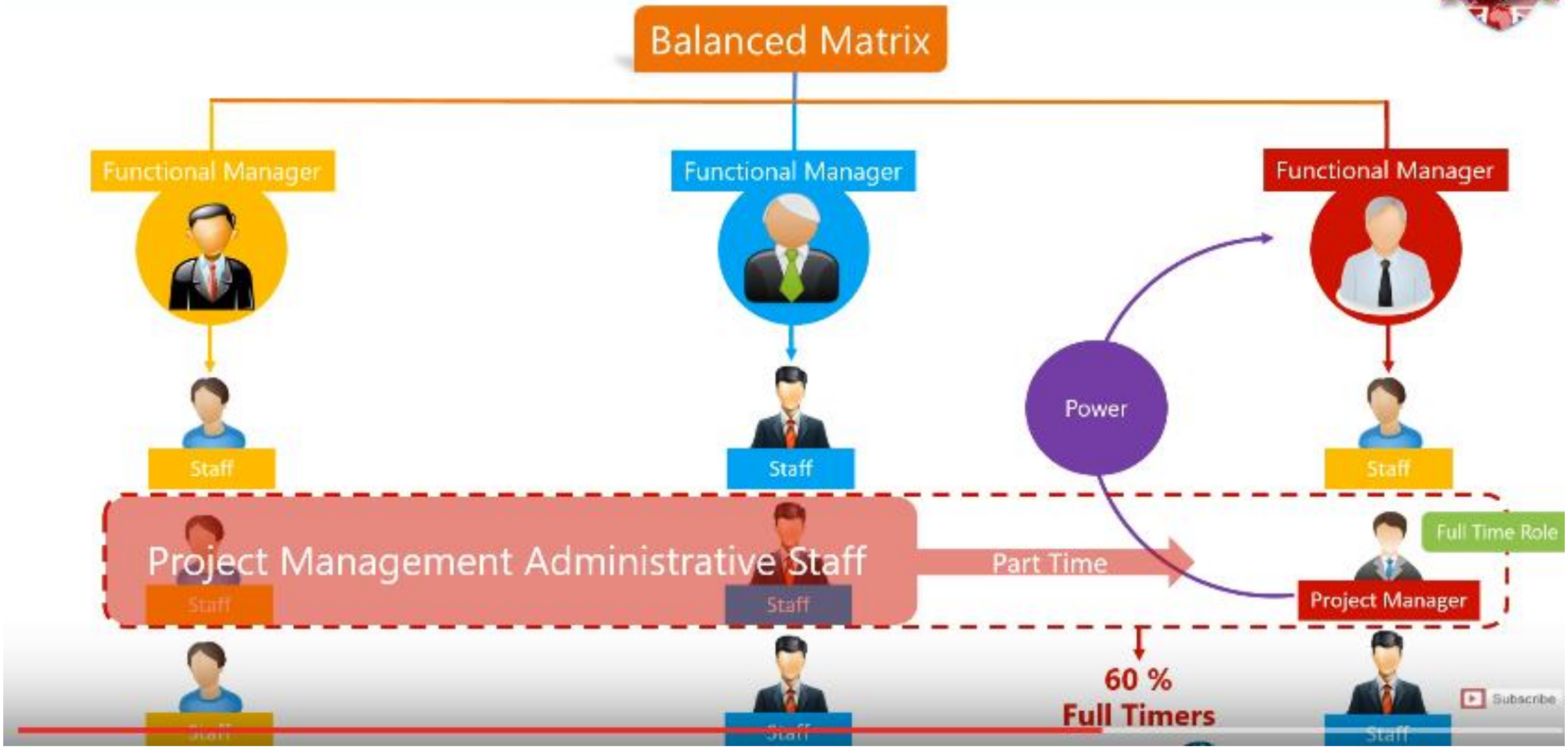
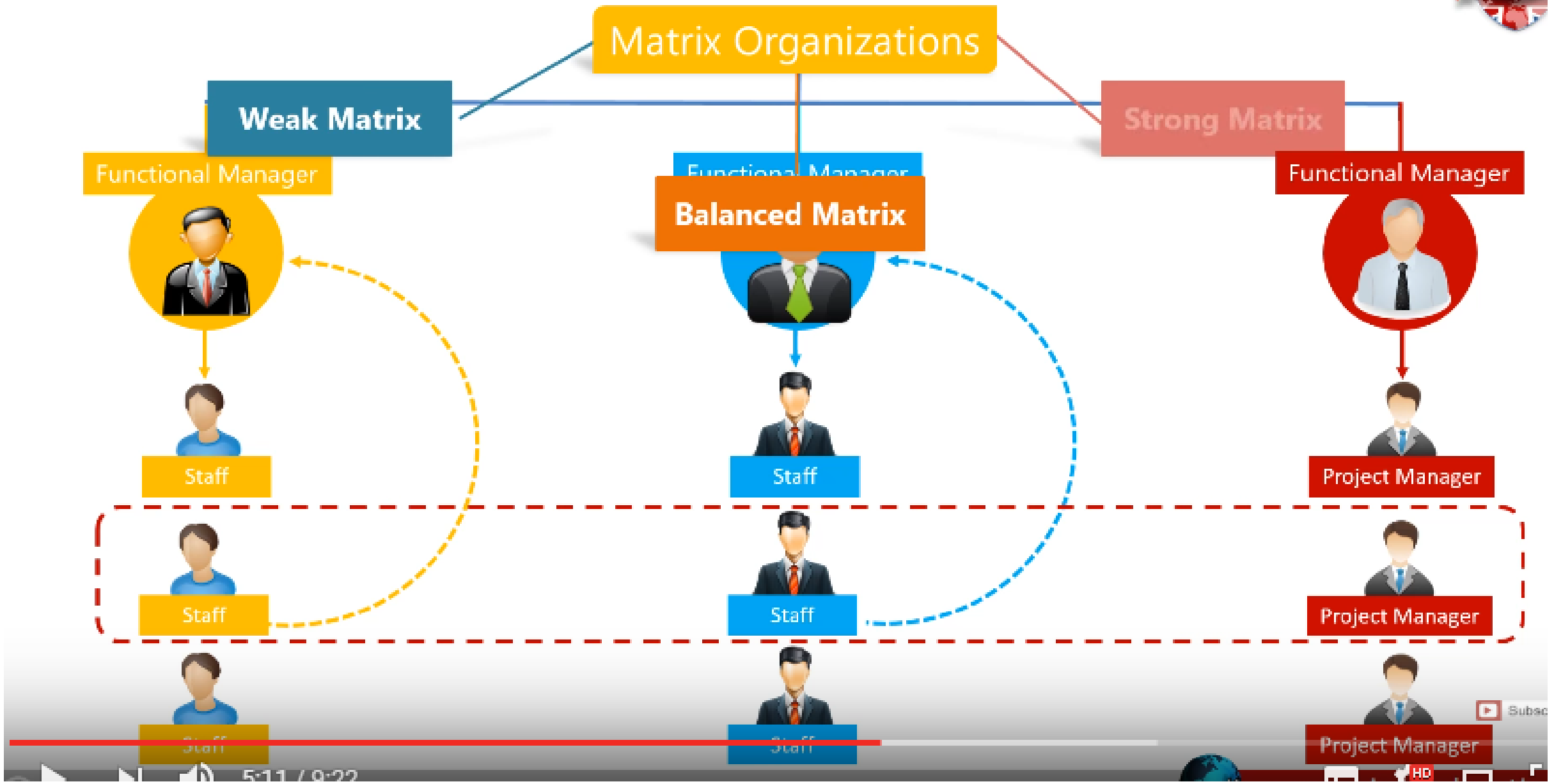


Figure 2-3. Balanced Matrix Organization

Matrix Organizations



Matrix Organizations



Advantages and Disadvantages of a Matrix Organization

Advantages

Highly visible project objectives

Improves Project Management control over resources

More support from functional areas

Disadvantages

Requires Extra administration

Requires more than one boss for project teams

More complex to monitor and control

Advantages

1. Mangaing project as a whole.
2. Access to the entire reservoir of technology.
3. Less anxiety about post-project plan. Generating feeling- functional ‘home’.
4. Rapid response to client & flexible to organization demands.
5. Preservation of policies, practices, & procedures.
6. Better balance of resources in case of multiple parallel projects.
7. Covers standalone projects and functionally organized projects.

1. The project is the point of emphasis. One individual, the PM, takes responsibility for managing the project, for bringing it in on time, within cost, and to specification (scope). The matrix organization shares this virtue with the standalone project organization.
2. Because the project organization is overlaid on the functional divisions, temporarily drawing labor and talent from them, the project has reasonable access to the entire reservoir of technology in all functional divisions. When there are several projects, the talents of the functional divisions are available to all projects, thus sharply reducing the duplication required by the standalone project structure.
3. There is less anxiety about what happens when the project is completed than is typical of the standalone project organization. Even though team members tend to develop a strong attachment for the project, they also feel close to their functional “home.”
4. Response to client needs is as rapid as in the standalone project case, and the matrix organization is just as flexible. Similarly, the matrix organization responds flexibly and rapidly to the demands made by those inside the parent organization. A project nested within an operating firm must adapt to the needs of the parent firm or the project will not survive.
5. With matrix management, the project will have—or have access to—representatives from the administrative units of the parent firm. As a result, consistency with the policies, practices, and procedures of the parent firm tends to be preserved. If nothing else, this consistency with parent firm procedures tends to foster project credibility in the administration of the parent organization, a condition that is commonly undervalued.
6. Where there are several projects simultaneously under way, matrix organization allows a better companywide balance of resources to achieve the several different time/cost/scope targets of the individual projects. This holistic approach to the total organization’s needs allows projects to be staffed and scheduled in order to optimize total system performance rather than to achieve the goals of one project at the expense of others.
7. While standalone projects and functionally organized projects represent extremes of the organizational spectrum, matrix organizations cover a wide range in between. We have differentiated between strong and weak matrices in terms of whether the functional units supplied individuals or capacity to projects. Obviously, some functional units might furnish people and others only supply capacity. There is, therefore, a great deal of flexibility in precisely how the project is organized—all within the basic matrix structure—so that it can be adapted to a wide variety of projects and is always subject to the needs, abilities, and desires of the parent organization.

Disadvantages

1. In the case of functionally organized projects, there is no doubt that the functional division is the focus of decision-making power. In the standalone project case, it is clear that the PM is the power center of the project. With matrix organizations, the power is more balanced. Often, the balance is fairly delicate. When doubt exists about who is in charge, the work of the project suffers. If the project is successful and highly visible, doubt about who is in charge can foster political infighting for the credit and glory. If the project is a failure, political infighting will be even more brutal to avoid blame.
2. While the ability to balance time, cost, and scope between several projects is an advantage of matrix organizations, that ability has its dark side. The set of projects must be carefully monitored as a set, a tough job. Further, the movement of resources from project to project in order to satisfy the several schedules may foster political infighting among the several PMs, all of whom tend to be more interested in ensuring success for their individual projects than in helping the total system optimize organization-wide goals.
3. For strong matrices, problems associated with shutting down a project are almost as severe as those in standalone project organizations. The projects, having individual identities, resist death. Even in matrix organizations, projectitis is still a serious disease.
4. In matrix-organized projects, the PM controls administrative decisions and the functional heads control technological decisions. The distinction is simple enough when writing about project management, but for the operating PM the division of authority and responsibility inherent in matrix management is complex. The ability of the PM to negotiate

Organization Structure / Project Characteristics	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Who manages the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Virtual Projects

- Virtual projects are those in which work by the project team crosses time, space, organizational, or cultural boundaries.
- Thus, a virtual team may work in different time zones, be geographically dispersed, work in different organizations, or work in different cultures.
- In all cases, the rise of virtual projects has been facilitated by the use of the Internet and other communication technologies.

Some rules for success when organizations find they must use geographically dispersed virtual teams for some of their projects

- Only use virtual teams for projects that are challenging and interesting. But also be sure the project is meaningful to the company as well as the team.
- Solicit volunteers as much as possible—they'll be more enthusiastic and dedicated to the success of the project.
- Include a few members in the team who already know each other, and make sure one in every six or seven are "boundary spanners" with lots of outside contacts.
- Create an online resource for team members to learn about each other (especially how they prefer to work), collaborate, brainstorm, and draw inspiration.
- Encourage frequent communication, but not social gatherings (which will occur at more natural times anyway).
- Divide the project work into geographically independent modules as much as possible so progress in one location isn't hampered by delays in other locations.

Project Management in Practice

Software Firm Yunio Avoids Complex Technologies

Chris Mathews, cofounder and CEO of China-based start-up software maker Yunio, avoids cumbersome gadgetry and complex interfaces to manage his global project teams. He prefers techniques and technologies that seem natural and comfortable for the virtual teams. His focus is clear communication, regardless of the technology used. And when a message can be sent by example, he prefers that to other, less-effective forms of communication. For instance, when working with his Chinese teams he found that it wasn't the norm for team members to let their colleagues know when they would be absent, or how to reach them. To set an example, he started e-mailing team members whenever he would be unable to attend a meeting. For individual teams or groups, he creates separate, distinct mailing lists. As his example was adopted by the teams, it became part of Yunio's culture whereby new employees automatically adopted it too.

Although Mathews uses e-mail for important matters where a written record is desirable, he finds other technologies can be more appropriate for other uses. To keep communication as simple and seamless as possible, he only uses wiki for teams larger than 15 people because it's a large investment requiring input from an online community of users to create content. Wikis become increasingly efficient, particularly for knowledge management, as the team grows. For less than 15 people, he prefers group chats but supplemented by chat logs. Instant messages don't require instant responses so they allow team members to drop a quick note to someone without requiring a response. Since his workers use instant messaging anyway, it's a natural communication tool for chats. Mathews believes that the use of tech products don't define how to manage virtual teams but rather are just part of the toolkit; smart management is about picking the most appropriate tool to communicate clearly.

Questions

1. Does managing virtual teams require more attention to communication technology?
2. Would communicating by example work for nonvirtual project managers?
3. What are the trade-offs project managers should consider when trying to select the most effective communication medium?

Source: M. S. Zoninsein, "Less Is More," *PM Network*, Vol. 24.

Leadership & Ethics

Project Leadership

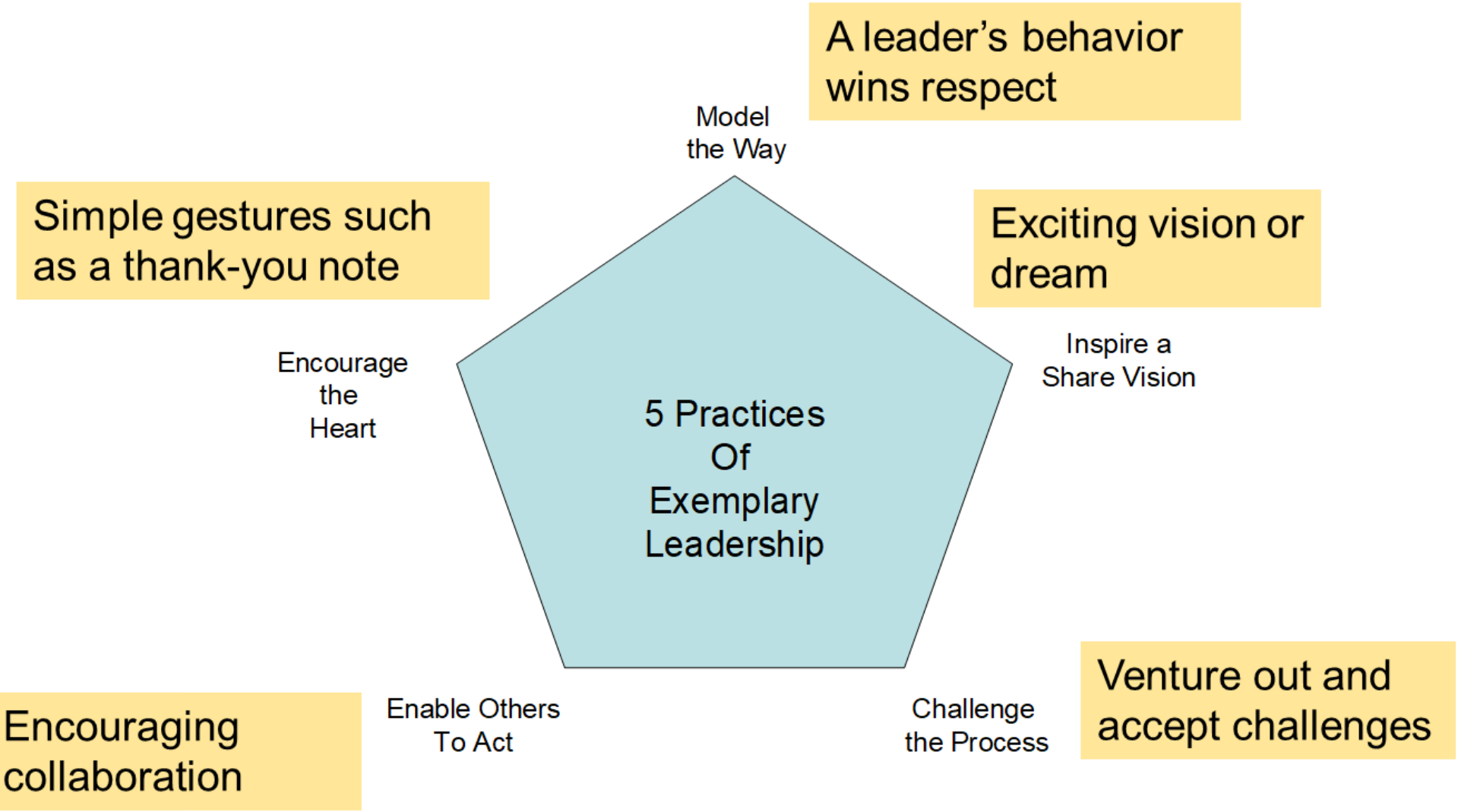
- **Management**
  - Focuses on policies and procedures that bring order and predictability to complex organizational situations
  - Is traditionally defined with such activities as planning, organizing, controlling, staffing, evaluating, and monitoring

- **Leadership**
  - Centers on vision, change, and getting results that involve setting direction, aligning people, and motivating them

Some Modern Approaches to Leadership

- Kouzes & Posner conducted research for over 20 years on effective leadership
  - Found leaders are often ordinary people who help guide others
  - Defined Five Practices of Exemplary Leadership to help others become more successful leaders

Five Practices of Exemplary Leadership



Leadership Styles

- Many effective leaders have a collection of distinct leadership styles
- A study of 3,871 executives worldwide by Daniel Goleman suggests that the best leaders do not rely only on one leadership style, but may **use several different styles** depending on the situation
- The following six styles can be used in influence performance and results
  - **The Coercive Style** - "Do as I say"
  - **The Authoritative Style** – " Come with me"
  - **The Affiliative Style** – "People come first"
  - **The Democratic Style** – "What do you think?'
  - **The Pace Setting Style** – " Do as I do, now"
  - **The Coaching Style** – " Try this"

Emotional Intelligence

- Goleman's study suggests that leaders who have mastered the authoritative, democratic, affiliative, and coaching styles have the best climate and have the highest performance.
- Effective leaders have the flexibility to switch among these leadership styles as needed.
- This ability depends on a person's emotional intelligence
  - Emotional intelligence is the ability to understand and manage our relationships and ourselves better.
    - Although our intelligence quotient (IQ) is largely genetic, emotional intelligence can be learned (and improved) at any age

Emotional Intelligence

- Improving one's emotional intelligence can be like changing a bad habit – takes time, patience, and a great deal of effort

- Includes 4 capabilities
  1. Self-Awareness --- reading and understanding emotions
  2. Self-Management ---self-control, adaptability
  3. Social Awareness ---recognizing/meeting customer needs
  4. Social Skills --visionary leadership, teamwork

Ethics in Projects

- Ethics can be defined as a set of moral principles and values
- Employers should establish guidelines for ethical conduct just as they do for other work-related behaviors such as what time to arrive and leave the workplace, and how customers are to be treated, etc.
- Leaders should identify appropriate and inappropriate conduct and then communicate their expectations

Ethics in Business

- Ethics has become an increasing popular topic in business and in business schools as a result of number of ethical meltdowns in organizations.

- Unethical business behaviors
  - Cost money
  - May be illegal and result in jail time
  - Are just bad for business!

- Unfortunately, ethical decisions are not always clear cut
  - To a large degree legality and ethics are governed by society and culture – i.e., the shared beliefs, assumptions, and values that we learn and that guide or influences our behavior

Codes of Ethics and Professional Practices

Professional associations (PMI,ACM) tend to have codes of ethics that serve to define the ethical responsibilities for members.

The code of professional conduct(ACM):

- *Contribute to society and human well-being*
- *Avoid hard to others*
- *Be honest and trustworthy*
- *Be fair and take action not to discriminate*
- *Honor property rights including copyrights and patents*
- *Give proper credit for IP*
- *Respect the privacy of others*

Multicultural Projects

- Although an international project may be considered a multicultural project, many domestic projects are becoming multicultural as organizations attempt to diversify their workforce

- Even though ethics is an important component of leadership, the ability to lead and manage a multicultural team is becoming an important skill for successful project leaders

The Challenge of International Projects

- Number of locations
- Currency exchange
- Regulations and laws
- Political instability
- Attitude toward work and time
- Religion
- Language
- Food

Understanding and Managing Diversity

- While culture is a set of social lessons of behaviors that we learn over time, **diversity** is defined as differences in culture as well as nationality, ethnicity, religion, gender, or generation.

- The Diversity Wheel provides a tool to better understand individual differences.

The Diversity Wheel