Module Five: Project Human Resource, Communications, and Stakeholder Management

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5.01 Learning Outcomes

Module Five: Project Human Resource, Communications, and Stakeholder Management

To be a productive part of project operations, participants need to understand their assigned roles and responsibilities, be properly and continuously engaged in project activities, and be kept apprised of project progress and any impediments that may occur so they can assist in their resolution.

Reporting relationships, staffing requirements, and team development must be appropriately structured to prevent missteps and errors from hindering project evolution. Communication efforts must be focused and supervised so that practitioners are kept aware of project progress and information is distributed in a timely and appropriate manner. And stakeholders must be kept continuously engaged in helping the team meet project requirements and reach stated goals.

The effective coordination of interaction and communication among project participants enhances the possibility of project success and will ensure harmony and satisfaction among those executing the project's tasks and completing its activities.

Learning Objectives

After completing this module, you should be able to:

1. Describe activities or actions implemented to manage stakeholder needs

5.03 Constraints and Limited Human Resources

Constraints and Limited Human Resources

Project human resource management is concerned not only with identifying which human resources will be necessary to complete project activities, but also pinpointing when and how long those resources will be required. Human resources—like most other resources—are limited, and may have to be shared between projects, so it is important for practitioners to ensure that appropriate personnel are involved when and where they are needed, but not tied up unnecessarily if their services are not immediately required.

Resource Constraints

Project practitioners may be constrained by several factors that will limit the use of project human resources. Important resources may only be available to assist in short, specific windows of time. Contracts, collective bargaining agreements, or other formal agreements may impose restraints on the use of specific resources or resource types. And, in some cases, individuals may be "pre-assigned" to work on a project due to contractual obligations or other promises made in a project charter.

To help understand and coordinate the requirements and timing of a project's human resources, practitioners should consider using a resource calendar to document when each resource will be needed.

Resource calendars should be very specific about the time frame and the quantity of resources needed. They may list required resources by name (e.g., Karla, Ray), type (e.g., software developer, tester), or department or function (e.g., product development, quality assurance). They should show how much time each resource will be needed on the project and should aggregate this information for quick and easy understanding by interested parties. In some cases, practitioners may include maximum allowances or other project limits in their calendars to help in coordinating and scheduling resources appropriately.

Resource	Total Hours Needed	April			May			June					
		4/1	4/8	4/15	4/22	4/29	5/6	5/13	5/20	5/27	6/3	6/10	6/17
K. Stevens	42	7 h	2 h	6 h		3 h	7 h		5 h	7 h	5 h		
S. Timmons	38	8 h	8 h	8 h	8 h		4 h					2 h	
M. Brady	17	4 h								4 h		1h	8 h
A. Fleming	36	3 h	3 h	3 h	3 h	3 h	3 h	3 h	3 h	3 h	3 h	3 h	3 h
N. Page	33				5 h	6 h			5 h	6 h		5 h	6 h

If a resource calendar shows that available resources and project constraints are in conflict, project participants may need to apply resource leveling or resource smoothing techniques to realign resources and needs. Resource leveling adjusts the start and finish dates in the schedule to align with resource availability. Resource smoothing spreads project activities out among several resources so that work can be completed without exceeding predefined limits or a specific resource's capability or workload.

Video Commentary

Resource Optimization Techniques

Richard Maltzman

Resource Optimization Techniques

Richard Maltzman

What's the difference between resource leveling and resource smoothing--two terms that sound very similar?

They are both used to account for over-demand for resources on a project. Resource leveling ends up changing the timeline of the project, possibly affecting the critical path. I like to think of resource leveling as pushing down on the bar chart and that's going to

squish out the end date a little bit because the start date is fixed and the end date is going to move out.

Resource smoothing, on the other hand, is used only on activities that have some built in float or slack. In other words, those are off the critical path and therefore will not change the critical path--unless you push too hard on them and they become part of the critical path (again, a science unto itself).

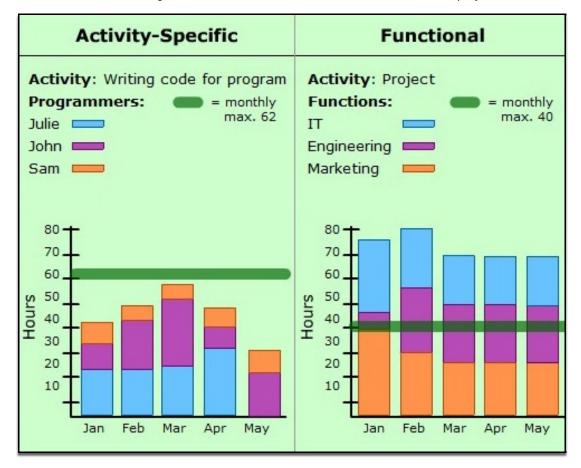
Rich Maltzman, PMP[®], is the Learning and Professional Advancement Leader at a major telecom supplier.A contributor to the *PMBOK*[®] *Guide*, 4th Edition, he has co-authored PMP[®] Exam study guides. He is co-founder at EarthPM, LLC, and along with co-founder David Shirley, PMP[®], has authored the book, *Green Project Management: Planet, Projects, Profits, and People*, published in September 2010. He received a BSEE from the University of Massachusetts in Amherst and has a graduate degree in industrial engineering from Purdue University.

Resource Histograms

To evaluate whether personnel requirements align with resource availability, practitioners may choose to create a resource histogram like the one below.

A resource histogram is a bar chart that illustrates how many hours a person, group, or project team will be needed in order to complete the project work. These charts often include a horizontal line that indicates the maximum availability of a resource; if a resource's bar exceeds this line, the project team will need to come up with solutions to explain how they will resolve this impediment—by changing the requirements, adding resources to the project, or adjusting the work to be spread among several resources.

As can be seen in the chart below, histograms can illustrate the different types of resources needed. The activity-specific chart on the left shows the number of hours that Julie, John, and Sam will be needed to write code for a program. The functional chart on the right shows the total hours that organizational units or functions will be available to the project team.



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The activity-specific calendar is for the activity "Writing code for program." The legend shows that Julie, John, and Sam will be the coders, and the monthly maximum for each of their hours combined is 62. January has Julie coding for 12 hours, John coding for 10 hours, and Sam coding for eight hours. February shows Julie coding for 12 hours, John coding for 20 hours and Sam coding for five hours. The numbers for March, April, and May are given as well, but in no case does the sum total more than 62 hours.

The functional resource calendar on the right is for the entire project; it shows when and how long the IT, engineering, and marketing departments will be working on this project. The chart reveals that a problem currently exists that will need to be resolved—specifically that the required resources substantially overrun the maximum monthly allowances of 40 hours for all departments.

In this situation, the project team can apply one or both of two primary strategies: 1) acquiring additional resources or 2) rearranging the schedule so that the resources available fulfill the new requirements. When human resources are constrained (as in the right-most chart in the example above), and work is not able to be rescheduled (if, for instance the project is working under a tight deadline and the work is on the project's critical path), the project management team should document how additional staff will be acquired to complete the work on schedule.

Working Around Constraints

The consequences of not successfully navigating around constraints can include having to change project baselines; these consequences can have grave effects if the project is not successful or the customer is not satisfied with the result. However, skilled project practitioners plan around these constraints: they assess the various inputs and use all the tools and techniques in their reach to secure a project team that will contribute to the success of the project.

5.03.1 Exercise: Constraints and Limited Availability Seven Strikes Game

This assignment does not contain any printable content.

5.04 Project Communications

Project Communications

To prevent surprises and to ensure that the project continues to run effectively, the project manager will need to determine how he or she will keep everyone involved with the project apprised of its progress.

Communication makes up a large part of what project managers do, because they must coordinate many people to get the work done. Though communication is something we all do so regularly that we often don't think about it, there are many choices that we make each time we communicate with someone. Every time we discover a purpose for communicating (for example, fact-finding: identifying whether the customer has a preference of color or size of a project deliverable; resolving conflict: settling a dispute between team members who have varying ideas about the design of a deliverable), we make choices about how that message will be delivered (for example, internally: you find out that the customer really wanted the product to be red by calling Annette in the Sales department; externally: you consult with the customer directly to see which design she prefers). In fact, you can think about these choices in terms of a menu of purposes and methods that can be mixed and matched depending on the situation:



A Basic Communications Model

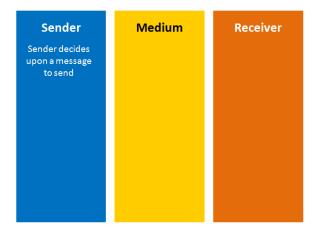
Communications can be illustrated graphically with a basic communication model. The slideshow below demonstrates each step of this basic model.

Basic Communication Model Sender Medium Receiver Technology of communication (e.g., email, phone call, meeting, videoconference)

The basic communication model shows the transmission of a message from a sender to a receiver through a medium.

Slide 2

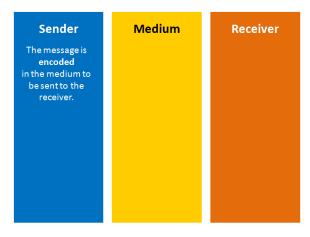
Basic Communication Model



The sender recognizes an occasion to communicate. He or she thinks about what needs to be said and the desired effect on the receiver.

Slide 3

Basic Communication Model

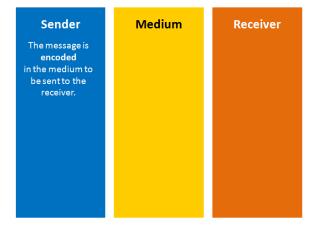


First, the sender encodes the message taking into account the following:

- 1. the message he or she needs to send.
- 2. the conventions and limitations of the medium he or she decides is best for the message.
 - 3. how the receiver is likely to best understand the message.

Slide 4

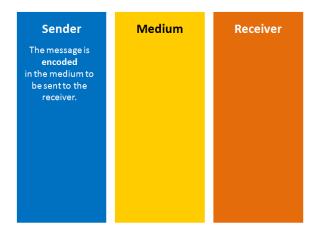
Basic Communication Model



In the global economy, encoding can very literally involve translating the message into the language understood by the receiver and using a medium that allows the team members to communicate while working in various time zones.

Slide 5

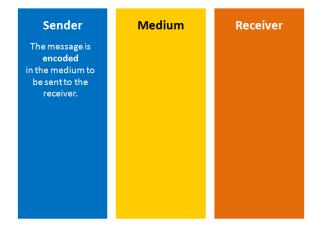
Basic Communication Model



If a design team in Charlotte needs to discuss with an outsourced development team in India some concerns about its recent performance, the Charlotte team might choose a videoconference. But because the workdays in Mumbai and Charlotte do not overlap, the meeting might have to take place at 9 p.m. in Charlotte, which would be 7:30 a.m. in Mumbai.

Slide 6

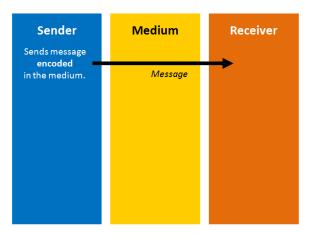
Basic Communication Model



On the other hand, if the design team just needed to apprise the development team of some project specifications, sending a clearly written email might be the best medium.

Slide 7

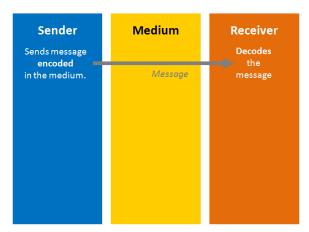
Basic Communication Model



The message is sent to the receiver.

Slide 8

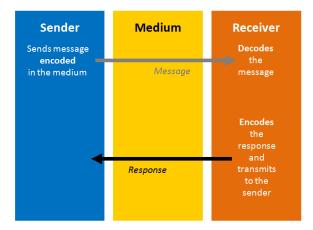
Basic Communication Model



If the sender made the correct choices about how to send the communication, the receiver will decode the message.

Slide 9

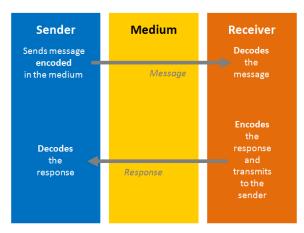
Basic Communication Model



In the classical model of communication, the receiver provides feedback on the message by encoding his or her own response and transmitting it to the sender.

Slide 10

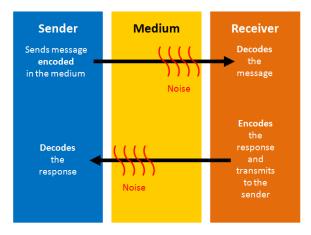
Basic Communication Model



The sender decodes the feedback response and the communication event is complete.

Slide 11

Basic Communication Model



Anything that interferes with a message is called **noise**. Noise can be the crackle of a bad telephone signal or the splotches in text created by a printer low on toner. But noise can also come from the message itself if it is encoded

without attention to how the receiver is likely to understand the message. Using too much jargon or describing technical issues in too much detail to a lay audience can create noise in a message worse than any bad telephone connection.

Images in the slideshow are adapted from Project Management Institute, A Guide to the Project Management Body of Knowledge (PMBOK [®] Guide) — Sixth Edition, 2017, Page 373.

For each technology or medium of communication there are techniques that allow the sender to decrease the chances that noise or unintended effects will impede the message. Sometimes a technique can be as simple as making sure that videoconferencing equipment includes an adequate microphone so that the team members on the other end can hear everyone in the room well. (Omnidirectional microphones are generally best when only one microphone is available, and they should be placed in the middle of the conference table at which the team members are sitting.)

Noise can also have nontechnical causes. Voicemail, for instance, can be a very useful tool. But listeners often lose track of a long voicemail message because they can't see the speaker, they can't interact with the speaker, and it's not easy to rewind. To minimize the noise caused by the lack of visual cues and lack of interactivity, voicemail messages should be brief and should include must-know contact information. Get to the point quickly, leaving the listener with the essentials of what they need to know to move forward. Restating a phone number at the end of the message is helpful so that the listener doesn't have to replay a message to retrieve these figures. Whether you believe leaving an effective voicemail to be a matter of technique or one of etiquette, it makes sense to think about the steps you can take to make each communication as effective as possible.

5.05 Exercise: Ordering the Communications Model

This assignment does not contain any printable content.

5.06 Communications Planning

Communications Planning

Good communications strategy is usually accomplished by the project management team having planned for communications procedures at an initial stage of the project. This allows the cost and effort to be determined early in the process and also to be factored into the budget and schedule baselines.

An effective communications plan describes who should be communicated with, who should do the communicating, what should be communicated, why it should be communicated (purpose), when it should be communicated (frequency, time frame), and how it should be communicated (language, format, method, technology).

To create this plan, project managers need to consider a number of factors.

- What is the organizational structure (e.g., functional/projectized/matrix/composite), and what is the nature of relationships among stakeholders?
- What is the culture of the organization and its prevailing communication styles?
- What is the available technology for communication (email, Web pages, blogs, videoconferencing, etc.)?
- Are there any resources for adding new technology?
- Is there a need for training on communication or related technology?
- What frequency of communication will work based on all of the previously mentioned factors as well as the project's duration and complexity?

In addition, project managers should consider including the following elements in their plan:

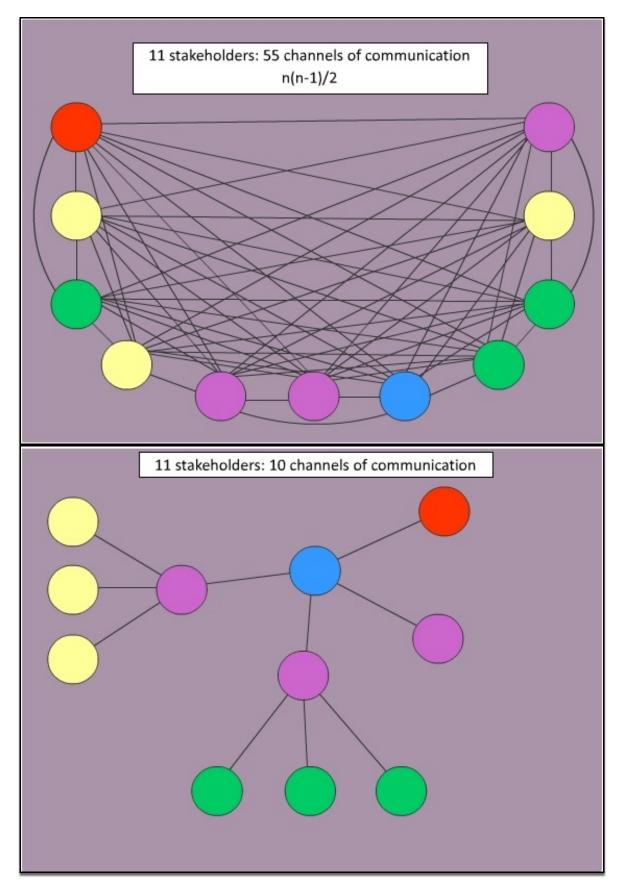
expectations	Expectations are crucial and should be understood by all stakeholders. These include format, frequency, style of content, level of detail, and person responsible for communication and intended recipients. Also outlined here are the technologies to be used in the project.
	This section discusses types of common communications on the project, including project summary and review reports, status reports, and performance reports.

	Status meeting information such as time, frequency, location, and content might be carved out separately due to its importance to a project. It's the face-to-face forum for project progress reporting and issue resolution, a kind of engine for the project.
communication	A project manager may want to highlight any differences here in how groups of stakeholders are expected to communicate throughout the project as in critical versus non-critical. The section also addresses the preferred medium, style, and frequency for stakeholder feedback as they are crucial to project planning and execution, as well as generally gaining support for the project in or outside of an organization.
issues that	When issues cannot be resolved, be they conflicts or just logistical issues in a project, they need to make their way to the project manager in some systematic way. This section outlines this process, including stating time frames.
	Project changes will occur, perhaps as an extension of the previously mentioned resolution of issues. For example, if a major vendor to the project gets replaced, this information must then be communicated as a project change. The project manager will need some system for this type of communication.
	Mention should be made about how lessons learned are communicated and stored during the project and archived at the close of the project. Like the process for communicating about project changes, there should be mention in the plan about how the plan itself gets changed.
project	People can communicate best when they are on the same page. The project manager will want to record any terms that he or she will want the team to be familiar with to smooth conversations. These terms might be an explanation of acronyms, technologies, aspects of processes and even management or project management terms.

Before creating a communications plan, the project management team should conduct an analysis of the communication requirements of the parties involved. This analysis should identify the type of information necessary to be communicated, as well as the format, and it will stipulate the flow of information.

Communications Pathways

Because the number of communication pathways in a project can increase dramatically with every stakeholder added, care should be taken to ensure that communication that is not needed by specific stakeholders or project participants is not included in communications plans. In the examples below, compare the difference between the controlled information flow shown in the second picture with the free information flow in the first picture. The second picture has much fewer pathways allowing for points in the flow where decisions about the project and its information can be authorized. The decreased pathways also diminish the effects of noise on the system.



Project management teams often tend to structure informational flow so that it mimics organizational structure. For this reason, organizational charts may help the team to align the authority of communication and decision-making with the current pathways of authority in the organization. Appointing department managers as the communication contacts between different functional departments allows them to tailor information to their teams so that it focuses on the importance of that information for the particular team.

The project management team should also consider whether resources will need to be dedicated to external communication, keeping in mind that communications with other organizations or with the public are likely to require different formats and methods than internal communications.

Video Commentary

Monitoring vs. Keeping Informed

Gina Abudi

As a project manager, you have two roles on projects. One is monitoring communications between project team members and stakeholders and customers. So, that may mean project team members communicating amongst themselves or project team members communicating with stakeholders and with customers. And it's also keeping the stakeholders and sponsor informed of the project's progress. So those are your two very primary roles you have when it comes to communicating.

It's highly unlikely on a project that you're the only one doing the communications with stakeholders. I've met many a project manager who want to be the only one who is communicating with the stakeholders. It's just not practical, especially if you're on a complex project with a lot of moving parts. However, you really want to monitor those communications for consistency and professionalism and to ensure the right things are being communicated at the right time and to the right people.

Stakeholders don't want to, nor do they need to know absolutely everything that's happening on the project. You want to keep them informed at a high level, and let me give you an example. If I have a project team that is having a few hiccups in the project, but we're managing those hiccups, and those hiccups are not affecting the schedule, the budget, or the scope of the project, and they might just be hiccups in a sense that two project team members are arguing about the best way to approach something. The stakeholders don't need to know that information. They need to know anything that's affecting the scope of the project, the budget, or the schedule. I want to make sure that that kind of information is kept within the team.

So I want to make sure as a project manager, when I know I have project team members who have to also communicate with the stakeholders, that we know what we're communicating and when we're communicating it. A communication management plan helps you here in ensuring the right things are being communicated at the right time to the right people.

Gina Abudi is President of Abudi Consulting Group, LLC. Gina presents at various conferences, forums, and corporate events—including the PMI[®] Global Congress—on developing a project management best practice. She was honored as one of the Power 50 from PMI[®]. She has served on the PM Summit/BA World Advisory Board and has served as Chair of the PMI[®] Global Corporate Council Leadership Team. Gina received her MBA from Simmons Graduate School of Management and is President of the PMI[®] Mass Bay Chapter Board of Directors.

Choices for Effective Communication

To ensure that project communication remains effective, the project manager should also consider what technology should be used and how the information should be made available. Communication methods can be categorized as *interactive communication*, *push communication*, or *pull communication*.

- Interactive communication provides the best way to confirm that information is received. This is because it requires multidirectional communication—the sender and the receiver are both present and communicating at the same time. Mutual feedback will ensure that both parties walk away from the conversation (whether it be in a co-locational meeting, on the phone, or via videoconference) knowing that their messages were received.
- Push communication provides an easy way for the project management team to ensure that information is sent to the

appropriate parties. Push communication can include emails, voicemails, blogs, faxes, memos, reports, or any other type of communication that the project management team distributes without the guarantee of immediate feedback. Push communication relies on the receiver of the messages to take the initiative of reading the message, so if a message is very important, interactive communication might be a better choice.

• Pull communication allows the receivers of the message to pull down information on their own schedule. This is beneficial when there is a lot of information or many receivers because it would not be practical for the project management team to compile it all and push it to the receiver or initiate interactive communication. Pull communication can happen through computer databases, intranets, or other repositories of information. It allows information to be available to the receiver on demand, but it requires even more initiative on the part of the receiver.

Once the team decides which information should be available on an interactive, push, or pull basis, and identifies the proper communication channels for the project, it will have to decide on the third variable in the efficiency equation: the proper technology (or medium) for the message. Even though we are used to hearing the word *technology* applied to things that are new, technology can be any tool or medium that we use. A conversation, a meeting, and a letter can be technology just as a database used to pull down sales information can. The type of technology or medium used for the message will depend on how frequently the information will need to be updated to be useful to the receiver, how easy the systems that are already in place to support information distribution are to use, how much time or money will be spent on communication and training staff to use the information technology, whether staff are available to meet with each other in person, and whether security measures need to be included to safeguard sensitive or confidential information.

Communications experts suggest that people absorb information at surprisingly low rates, and that the best way to make sure your messages are received is to offer them in multiple modalities (oral and written, for example) using an overlapping (but not redundant!) approach to communicating your message. If a message is very important, a meeting or some other interactive communication technology might be the best bet, even if stakeholders also receive an outline of the information by email. Though project managers don't want to flood busy stakeholders with more information than they need or to spend excessive time or money on creating or printing paperwork, a report can be pushed to stakeholders in the form of a printed document even as it is also posted to the organization's database to be pulled down (downloaded) at a later time.

5.07 Negotiation

Negotiation

As a project manager, you may be called upon to negotiate many parts of your project, including the project's scope, price, terms, and schedule. Negotiation brings two parties together to create a common agreement and expectations. Negotiations can cause friction between parties, as both sides work to forge a deal that protects their interests.

Negotiating can be a difficult process; parties must ensure that they hear and respect the opposing side's arguments but not lose sight of what is important for themselves. Successful negotiations result in an agreement that both sides feel comfortable with and where neither party concedes completely to the opposing side. This approach to negotiating is called "win-win" negotiation, or integrative negotiation. It emphasizes the development of mutually beneficial agreements based on the interests of the negotiating parties. This leads us to the question: what are interests and how do they differ from positions?

Interests represent the underlying reasons why people get involved in a negotiation. The position of each party can be thought of as the "what" of the negotiation: the public or stated desired outcome.

In general, interests are usually less tangible than positions. A key element of integrative negotiation is for the parties to ask each other why they feel the way they do about the situation at hand.

Consider the chart below which compares integrative negotiation to negotiation strategies that focus on positions.

Integrative Negotiation

The parties act as joint problem solvers.

The goal is to make a wise decision.

The parties work together to determine who gets what.

The focus is on interests, not positions.

The parties are open about their interests and use fair principles.

The parties insist on objective criteria and consider multiple

The groups use reason and yield to principle, not pressure.

The parties look for win-win opportunities.

answers.

Positional Negotiation

The parties are adversarial.

The goal is victory.

Each party demands concessions from the other.

The parties may focus on their respective positions.

The parties are closed about their interests and may mislead and

use tricks.

Each party insists on its own position.

The parties apply pressure to each other.

The parties only want themselves to win.

Adapted from Fisher, Ury and Patton, *Getting to Yes: Negotiating Agreement Without Giving In*, and Spangler, "Integrative or Interest-Based Bargaining"

Conducting Negotiations

As you discuss the specifics of the project, it is important to remember that your negotiations will set the tone for the working relationships on the project. A "take no prisoners" approach to negotiation may emphasize short-term gains at the cost of long-term success. Alternatively, a project manager's negotiation skills can develop mutual respect between the parties involved, improve communication, and create a lasting rapport.

When negotiating, consider some of the key issues listed below.

Negotiation Stage	Key Issues
Preparation	 Establish the scope to be negotiated. Determine what success looks like. Ensure that the person you are negotiating with has the proper authority to negotiate. Try to anticipate how the other party might react. Brainstorm "what if" scenarios and develop creative solutions. Rehearse discussions or role-play with a coworker to prepare for negotiations.
Conducting Negotiations	 Develop rapport with the other party before entering the negotiations in earnest. Focus on the scope of the project and potential issues. Establish your own credibility. Listen to the other party. Understand the other party's needs and concerns. Keep a tally of concessions. Seek reciprocal concessions. Close negotiations successfully on a positive note.

There are a host of techniques that you can use to help ensure a positive result for your negotiations. Explore and review some of the common (good and bad) tactics employed in negotiations and be prepared to deal with them if they arise. Some of these tactics are discussed in the resources below:

- Program on Negotiation (Harvard Law School)
- Neutralizing Manipulative Negotiation Tactics
- Vendor Contract Negotiation tips
- BATNA

Negotiating Trade-offs

Negotiating often involve trade-offs in the key project constraints (scope, time, cost, resources, quality). The following chart reviews some of the potential options in each of these areas.

Constraints	Potential modifications
Scope	 Reduce the scope of the project? Reduce the complexity of the project? Deliver the product/service/output in stages?
Time	 Reduce the duration of specific project phases? Modify the critical path of the project? Employ other techniques to compress the schedule? Extend the project deadline?

Cost	 Spend budget reserves? Add to reserves? Negotiate lower prices with suppliers/vendors? Get approval to exceed project budget? Ask management to add to the project budget? Capitalize the project expenses?
Resources	 Add staff? Borrow staff or resources from within the organization? Add needed skills/capabilities through training? Outsource technical resources? Rely more on contractors? Rely more on end-users?
Quality	 Compress the quality assurance (QA) process? Reduce the level of the QA process for non-critical project components? Modify the quality standards?

Video Commentary

Working Through Negotiation Roadblocks

Richard Maltzman

Working Through Negotiation Roadblocks

Richard Maltzman

What do you do when you're in the midst of a negotiation and it's just not working out so well for you? Here are some tips:

First of all, find an experienced mentor. If you're lucky, you can find someone with outstanding negotiation ability and great knowledge of the particular negotiation partner you're dealing with and the situation, or if you're really lucky, all of those things.

Draw power and authority from your project charter. Remember, a project charter is a document that authorizes this project to take place.

Focus on "interests" and not "positions." A lot of negotiations go wrong--and this is where you have to remove the emotional element--when people take positions and dig firmly into the position (and that includes yourself). Look for that when you are impartial in a negotiation and also watch yourself to see if you are digging into a position as opposed to looking at the interests--especially the mutual interests in a negotiation.

Make the point of contention the focus, not your negotiation partner--and this is difficult. In other words, be hard on the problem and easy on the people.

Also look for a "ZOPA." ZOPA is an acronym for zone of possible agreement. Be creative in looking for an area in which you have agreement, in which you can--in this case--compromise, although compromise is only one of many solutions to a negotiation.

Rich Maltzman, PMP[®], is the Learning and Professional Advancement Leader at a major telecom supplier.A contributor to the *PMBOK*[®] *Guide*, 4th Edition, he has co-authored PMP[®] Exam study guides. He is co-founder at EarthPM, LLC, and along with co-founder David Shirley, PMP[®], has authored the book, *Green Project Management: Planet, Projects, Profits, and People*, published in September 2010. He received a BSEE from the University of Massachusetts in Amherst and has a graduate degree in industrial engineering from Purdue University.

5.08 Conflict Management

Conflict Management

Video Commentary

Resolving Team Conflict

Dr. Quinn Mills

Resolving Team Conflict

Dr. Quinn Mills

What are key techniques by which team leaders can seek to resolve conflicts which may arise in a team? There are several. But the most important thing to say is that the time to resolve conflicts is before they arise. Now this means not only to attempt to avoid them because of course that's important, but more important, it means to establish at the outset of the team's activities--at the moment of the team's organization--a process which every member of the team buys into for the resolution of disputes if they arise.

You see, the great difficulty is not to resolve disputes that arise in a team, or conflicts that arise in a team, it is that we so often encounter those conflicts when we haven't set up any mechanism for their resolution in advance and therefore we have TWO problems: we have the conflict to resolve, but we also have to figure out how to resolve the conflict. A wise team leader sets the stage for its conflict resolution at the very outset before there is any conflict.

Now, there are many ways to resolve conflicts: we might say that if we get into a conflict we might resolve it by majority rule, within the team, we might say we'll solve it only by consensus, we might say we will resolve it by letting the team leader make the decision, we may say we will resolve it by going to the boss who set up the team, we may say we will resolve it by going to people outside the team; there are numerous ways to do it. And, in fact, we might say we'll deal with different types of conflicts by different modes of resolution.

The point is, from the outset, that the whole team agreed on a method of resolution; where that's the case then when a conflict comes up, we know how we're going to deal with it and we can deal with it expeditiously.

So the most important thing to keep in mind in setting up a team is to deal with issues of possible conflicts before they arise by setting up a generally accepted method of resolving potential conflicts.

D. Quinn Mills, the Alfred J. Weatherhead Jr. Professor of Business Administration at Harvard Business School (emeritus), consults with major corporations in the U.S. and globally. He has written extensively on leadership, strategy, and management issues.

Project Management

Alice Denison

I think one of the best ways to resolve a conflict when it comes up in a team setting is to be clear at the outset about how decisions are going to be made. There are some

cases where, as the team leader, team members are responsible for whatever work they're supposed to do but decisions are going to be... their role in decision making is perhaps advisory.

But there are other teams where their role in decision making is not advisory but it's consensus it's... they, you know, it's more democratic.

So, resolving conflicts in an advisory... when their role is advisory is going to be different than resolving conflicts when their role is as a full voting member.

But clarity at the outset is important because the good thing about having conflicts in a team is that it usually means that people's egos are really involved in whatever the issue is that you're trying to do, whatever the work is. It's not a bad thing for people to feel passionate about what they're doing, and it's not at all a bad thing for there to be conflicts so I'm not saying that you should encourage them but you shouldn't fear them.

And if you've set out at the outset a way that they're going to be resolved, then when you follow that process, your team members are at least going to feel that you're fair even if you didn't land or the ultimate decision wasn't the decision that they wanted to see made.

Alice Denison was development director for the New England Historic Genealogical Society from 1984-1989 in Boston and moved up from there to become vice president of ventures at the Conservation Law Foundation. She has been chief of staff to the Secretary of the Office for Commonwealth Development and is currently consulting with Serrafix. She is also an artist, with a master's degree from the Massachusetts College of Art and Design; she exhibits frequently in the Boston area.

Conflicts that arise on projects will require some form of conflict management. Conflict is not always a bad thing; it can be constructive—particularly if the ensuing team interplay leads to a deeper understanding and resolution of the issue. But more often than not, because teams play such an important part in project management, conflict derails teamwork and any team dysfunction can be extremely disruptive.

Type or Sources of Conflict

Conflict can occur at multiple levels. Some conflicts occur between individuals or are interpersonal. Others occur within a group (intragroup) or between groups (intergroup).

Intragroup conflicts are the most common and generally take the form of a relationship conflict, a task conflict, or a process conflict.

A *relationship conflict* results from personal dislikes between team members and is difficult to resolve. This type of conflict may force the team leader to reassign team members so that conflicting individuals do not have to work together.

Task conflict arises when team members do not agree about the group's tasks. By talking through these conflicts, the team will have an opportunity to analyze the importance of each step and possibly to improve performance.

Finally, a *process conflict* results from different opinions about how the team's work should be performed. Generally, this type of conflict is resolved though team discussions and an assessment of each member's role and responsibility.

Conditions That Create Conflict

While many conflicts arise from interpersonal differences, structural differences can also cause conflict. The table below describes the types of structural conditions that can cause conflict.

Structural Conditions That Cause Conflict

Role ambiguities

When roles and responsibilities are not clearly defined, team members risk encroaching on the work of other members. The individual team members are not necessarily at fault, because the supervisor failed to make the roles and responsibilities clearer.

When resources are tight, managers may find themselves competing with other managers for the same Scarce resources resources. Ultimately, a supervisor will have to decide how to allocate the resources, but individual managers might still feel as though their ability to complete their work has been blocked.

Task

When an individual's or a unit's work depends on the completion of other work, conflict can arise. For example, if an acquisition department does not supply necessary materials to a production department on interdependencies time, the production department cannot successfully complete its work. These types of interdependencies risk conflict.

Competing goals

Business units with competing goals can complicate each other's work and cause conflict. For example, a marketing manager for a fast-food restaurant may want to add a variety of new products to the menu, but this goal might conflict with the operations manager's goal to produce food as guickly as possible. (A larger menu would complicate operations and most likely slow service.)

Incompatible evaluation or reward system Incompatible reward systems can aggravate competing goals by rewarding departments whose goals are counterproductive for other departments. In the example of the fast-food restaurant above, the marketing manager might be rewarded for increasing sales, while the operations manager is rewarded for maintaining quick service. In this case, the rewards could promote conflict because the goals are not always compatible.

Sources of conflict can include scarce resources, scheduling priorities, and personal work styles. Team ground rules, group norms, and solid project management practices (such as communication planning and role definition) can reduce the amount of conflict. A project manager's first step is to encourage others to resolve their disputes. Only when they cannot should the project manager intervene; he or she will need to examine the facts thoroughly and explain decisions made regarding the dispute to the concerned individuals in private.

Steps to Manage Conflict

When conflicts in teams arise and it's beyond the ability of team members to resolve them, the project manager must step in. But before the conflicting parties meet to discuss the problem, the project manager might want to set up a few guidelines for them to follow as they work through the issue. To help the parties make the best use of this time, consider the following suggestions:

- Be sure that they separate the problem from the personalities involved. Often people are in conflict because of an underlying problem—they are just trying to overcome an obstacle to their work and have expressed their frustration inappropriately. Encourage participants to work together to uncover the root cause of the problem and collaborate on a
- Be careful to limit the participants' use of labels or names for other parties. Allowing negative labels makes the conflict a personal attack, which is very difficult to overcome. Even allowing participants to describe others with positive labels can create a problem because it implies that one party has the power or authority to judge others in the conflict.
- Prohibit participants from presenting assumptions about the other party's motivation. Individuals may presume that they know the underlying reason for actions but only by letting both sides explain themselves can you ensure that real causes are uncovered.

Once the two sides are brought together, they may have difficulty determining how to resolve their problems. Here are some simple steps to follow:

- 1. First, ask the conflicting parties involved to document the issues and their assumptions around these issues. They should also offer at least one proposed solution. (If the project manager is involved in this conflict, he or she should do the same.)
- 2. Schedule and lead a face-to-face meeting during which the parties can state their cases, and also state what they heard as the other side's case. This ensures that there is common understanding of the facts and of the conflicting parties' viewpoints. It is very important for the project manager to seek consensus on these two points.
- 3. During this process, and the ensuing conversation, possibilities for solution may quickly arise. If it doesn't happen that way, the project manager is in the role of facilitating this discussion and ensuring that a solution is found. The solution might be a compromise. In other instances, the conflict might be so entrenched that the project manager has to force a solution.

A few general techniques for resolving conflict are summarized in the chart below.

Healthy Conflict Resolution
Withdraw/Avoid: anticipating and avoiding potential conflicts, or postponing resolutions to a later date
Smooth/Accommodate: finding areas of agreement or conceding one's position
Compromise/Reconcile: finding a solution that offers some benefit for all involved
Force/Direct: forcing one's viewpoint regardless of the opinions of others
Collaborate/Problem Solve: meeting the conflict with open dialogue so that the alternatives can be examined

Of the five approaches to conflict resolution, withdrawal is the least desirable. Collaboration is the most desirable, because it focuses on addressing conflicts with a problem-solving approach and emphasizes a win-win outcome. After collaboration, compromise is the next most frequently used approach to resolving conflicts on project teams, with the other approaches following at a lesser frequency.

If the sides are still unable to resolve the conflict, the project manager may be forced to bring in an outside party to act as a mediator. If that is necessary, it is important to make sure that the person chosen is a neutral party with no stake in the resolution, to ensure that the mediation is fair to all involved.

Learning from Conflict

In some cases, a project manager might bring the resolved issue to the rest of the team as a lesson learned, but only if it's possible to keep the identities of the people confidential. If certain individual(s) are becoming a discipline issue, a project manager should document this information and contact human resources. In extreme instances, if a resolution can't be found, a project manager might need to take drastic actions, such as replacing or reassigning staff.

For teams that learn to resolve problems on their own, conflict can become a useful tool. These teams use conflict to uncover issues that impede progress and to clarify issues that prevent success. The adversity that high-performing teams overcome actually strengthens the team and teaches them new skills. But any resolutions that teams develop must solve conflicts while still respecting the people involved.

5.09 Minicase: Handling Conflict

This assignment does not contain any printable content.

5.10 Team Development and Assessment

Team Development and Assessment

In addition to ensuring that project resources are used in an optimal way to satisfy project requirements, project leaders should also be charged with improving individual competencies, team member interaction, and the team's working environment.

Team development starts during the early phases of a project, but must extend across the project's entire life cycle. Team development should center on the culture of the project; a project leader should seek to build trust and consistency, while balancing workloads, matching strengths against weaknesses, and encouraging the exchange of information.

Team development may also involve the training or coaching of individual team members, when needed. Training and coaching doesn't have to be a formal process; unplanned observations, teaching, and reviews can provide informal opportunities for development and improvement. Training



and development opportunities can occur whenever and wherever needed so practitioners should stay alert for favorable occasions, such as meetings or planning sessions. (These meetings can also be an ideal venue for rewarding and recognizing team members for their positive contributions to the project.)

Skills Assessment

Before the development needs of project team members can be adequately addressed, practitioners must assess each individual's existing skills and then develop strategies to fill any gaps that may be found; this can be accomplished by reviewing performance assessments that contain specific, predetermined criteria set forth early in the project. Relevant criteria may include competence in the technical-, schedule-, and budgetary-based aspects of project objectives, as well as continuing education accomplishments and improvement activities.

These performance *assessments* can then be compared to team member performance *reports* to see if any training that has been implemented has actually resulted in increased performance. Different from project performance reports, team member performance reports are personnel-specific records that document information related to an individual's performance as measured against relevant assessment criteria. Team member performance reports are created at regularly scheduled intervals throughout the project and are generally discussed with individual team members in one-on-one meetings. The information discussed in these meetings can be relayed to a general employee file if one exists, which can then be used to assist in staffing

and forecasting for future projects.

For those team members who meet objectives well and excel on a project, rewards and recognition may be in order, even if it's one-to-one praise. It is important to keep these gestures in proportion to the action for which they are given and ensure that they are linked to desired behaviors.

Video Commentary

Managing Your Team

Gina Abudi

As a project manager, we sometimes forget that we're also sort of a human resource person too. So part of our responsibility is to manage and guide our team. This means mentoring them, providing them leadership, training them, motivating them. You need to build the project resources from individuals on a project to a fully functioning team. You don't get to a fully functioning team by throwing people together. They're all individuals. You need to build that, and that requires you to have a little bit of team leadership and human resource background, frankly.

A key component of your project is managing the performance of the team members. You need to be on top of the performance of the team and how they're performing. The larger the team, the more you might rely on project leads to help you in monitoring performance. And monitoring performance is not just telling people when they're not doing a good job. It's also telling them when they're doing a good job, so making sure that you know the good that's going on and acknowledging that on a regular basis.

Monitoring performance entails telling the team members when they're doing a great job and also providing them constructive feedback when necessary. And constructive feedback may or may not be done in a group setting. You know... well let me step back. Really if someone is not doing a good job on the team, do I hit them up with that in the middle of a team meeting? I do that in a one-on-one situation. However, when people are doing a great job, I bring that up at a team meeting--you can be sure of it. And I also bring it up in my stakeholder meetings, by the way. It's also providing them roles and responsibilities that are very clear so they understand what their responsibilities are, what their role is on the project, and that that's not ambiguous, that they understand, "This is what I need to do, this is what I'm working towards."

It's also keeping tabs on problems within the team and how quickly they're resolved. As a project manager, I don't jump into every problem to try to resolve it. I look for the team to resolve that problem. However, when you're first kicking off a project team, sometimes they don't really know how to go about resolving that problem. They're not working effectively as a team, and then I might step in. Although if I see a problem on a project that's going on for quite a bit of time, I want to nip it in the bud quickly, so I want to start stepping in to address it, or help the team members to resolve it themselves.

It's also helping team members get the skills they need to be effective. Part of what I do is understand what is the expertise and what is the skill level--beginner, intermediate, advanced--of my project team members so I can help them build those skills. I like my projects to be a learning experience for everybody, including me as a project manager, in a lot of cases, so everybody walks away with something new that they've learned, new knowledge they have, new skills that they can take to a new project.

And it's also setting goals for team members, but letting them participate in that goal setting. So that, as an example, if I know I have a team member that is really really interested in learning some new technology on a project, I want to give them the opportunity to do so. I don't want to give them the opportunity at the detriment of the project, meaning it's going to cost me more on the project, it's going to impact the quality, or it's going to affect my schedule, but I want to find ways for them to maybe be able to shadow somebody with that expertise or to learn maybe off project time a little bit more about it so they're building a couple skills. That is all part of really addressing the performance in managing your team as a whole.

Gina Abudi is President of Abudi Consulting Group, LLC. Gina presents at various conferences, forums, and corporate events—including the PMI[®] Global Congress—on developing a project management best practice. She was honored as one of the Power 50 from PMI[®]. She has served on the PM Summit/BA World Advisory Board and has served as Chair of the PMI[®] Global Corporate Council Leadership Team. Gina received her MBA from Simmons Graduate School of Management and is President of the PMI[®] Mass Bay Chapter Board of Directors.

5.11 People Management Skills and Conflict Resolution

People Management Skills and Conflict Resolution

As mentioned earlier in this course, when conflicts arise on projects, a project leader's first step is to encourage others to resolve their disputes—leaders should only intervene when participants cannot resolve the issues on their own.

But when project leaders are forced to step in, they must employ good "people management" skills to help participants resolve conflicts. Project leaders must be able to assess team members' positions and foster an open discussion about the issue at hand, while still ensuring a respectful working environment. By addressing the problem professionally and respectfully, leaders can help prevent and/or reduce conflict on projects.

Harvard Business School Professor D. Quinn Mills, in his book, *Principles of Management*, has outlined the eight techniques of good people management (summarized in the table below).

	Good people management: Eight techniques
	People need freedom to make decisions, something only possible in an environment without unreasonable penalties for mistakes.
z. Building	The trust of people for their managers tends to correlate with the management qualities of the manager: Generally, people show some trust for managers who are predictable, even more for those who are additionally reliable, and the most for those who add to this mix mutuality, or a sense of "one for all and all for one."
3. Establishing vision	People need an inspiring objective that was formed with their input and buy-in.
	Leaders should form achievable, time-constrained goals that are aligned with larger objectives, and they should encourage this behavior in others.
5. Measurement and reward	People need to understand the benefits that are related to their work. The benefits are linked to organizational drivers, finances, and work efficiency.
6. Motivation	The project leader should create a setting in which workers can be motivated to do their best.
7. Empowering others	Good managers assist people in learning to cope with stress, give and receive criticism, and listen effectively.
8. Managing change	Change is best received in an environment that manages risk well and in which people feel safe.

Motivation is both a part and a product of managing people well. Teams are motivated by managers who lead through:

- doing what they say they're going to do
- · acting honestly
- being approachable
- · communicating and listening well
- encouraging communication
- holding people accountable for their actions
- knowing and communicating well the goals of the project and team members' roles

If project participants trust and believe in their leaders, they are more likely to accept any conflict resolution decisions that may be suggested.

The Project Practitioner's Role as "People Manager"

Richard Maltzman

The project practitioner as a "people manager." How do you use soft skills to help your project team get along? Some say that project practitioners do not manage projects-they manage people. This is a bit of an exaggeration but the spirit of this statement is correct.

Soft skills come into play every single day for the project practitioner. Communication, negotiation, coaching (both taking and giving coaching), arbitration; these are necessary skills since the resources working on project tasks are not all machines. People come with baggage, which could include such challenges as an unwillingness to work on this specific project or any project. Conflict between work groups, conflict between individuals, conflict even within an individual, and working outside of a comfort zone (for example, a technical person needing to make a sales pitch, or an older contributor working with new technology such as Twitter and Facebook)--for all of these situations the project practitioner is effectively a people manager (the team's temporary functional boss) so these skills--just as they are for a real boss--are absolutely critical.

Rich Maltzman, PMP[®], is the Learning and Professional Advancement Leader at a major telecom supplier.A contributor to the *PMBOK*[®] *Guide*, 4th Edition, he has co-authored PMP[®] Exam study guides. He is co-founder at EarthPM, LLC, and along with co-founder David Shirley, PMP[®], has authored the book, *Green Project Management: Planet, Projects, Profits, and People*, published in September 2010. He received a BSEE from the University of Massachusetts in Amherst and has a graduate degree in industrial engineering from Purdue University.

5.11.1 Minicase: A Conflict Between Stakeholders

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5.12 Stakeholder Management

Stakeholder Management

Working with stakeholders and managing their expectations are crucial tasks for project participants and team leaders. All of the stakeholders associated with a project must be identified, but this is often difficult, especially with large or complex projects. Furthermore, managing the expectations for such a diverse group and ensuring that they are continuously engaged in project activities can be challenging for even the most experienced project practitioners.

Identifying Stakeholders

One of the first (and most critical) tasks for a project manager is identifying all of the stakeholders associated with a project. Failure to identify key stakeholders can cause major problems for a project—if a stakeholder is overlooked and then surfaces later in the project, this person or group may challenge past decisions and/or impose additional, unanticipated work that could derail the project.

Stakeholders may represent a positive or a negative influence on a project. Positive stakeholders benefit from a successful outcome for the project and their interests are best served by helping the project to succeed. In contrast, negative stakeholders are those who anticipate or hope for negative outcomes from the project. These people or groups may try to impede the project's progress. When practitioners overlook the potential for disruption from negative stakeholders, the overall success of the project will be at risk.

Practitioners may need to review important project documents (like the project charter, power/attitude/interest grid, and salience

models, among others) to help them identify all of the potential stakeholders. They can also check with colleagues, project teams from past projects, and other experts to help uncover unexpected or "hidden" stakeholders that may influence the project. Any new stakeholders or information that they uncover should be documented on the stakeholder list, which should be reviewed and updated regularly.

Managing Expectations

Although stakeholders may have different or conflicting objectives, project practitioners must manage all of their expectations to guarantee a successful project outcome. To effectively manage stakeholder expectations, project teams have to devise appropriate management strategies for engaging each stakeholder for the life of the project, with the goal of ensuring project success.

Each stakeholder must be managed differently, as no two stakeholders have equal power, influence, or investment in the project. A weekly summary email may be enough to satisfy and engage a project sponsor, but would be insufficient for a team member who spends 100% of his or her time on the project. And, even if two people perform the same function, one team member may be far more supportive of the project than another, so the management strategies to guarantee appropriate engagement in the project would need to be handled accordingly.

Different stakeholders may measure the success of a project by differing standards. One tool to help understand and manage these standards is an expectations management matrix. Such a matrix documents and prioritizes expectations, and provides suggested guidelines to help project participants make necessary tradeoffs as the project progresses. The table below shows an example of an expectations matrix:

Measure of Success	Priority	Expectations	Guidelines
Scope	2	The scope statement outlines the "must have" and "nice to have" requirements.	If the scope of the project must be reduced, the "nice to have" requirements should be eliminated first.
Time	3	There is flexibility in the delivery date.	Although there is some "give" in the schedule, project practitioners must still be alerted to problems that may impact the schedule.
Cost	1	The project must come in on budget. No additional funds can be devoted to the project.	Key stakeholders will accept the scaling back of the project scope or schedule in order to stay within budget.
Quality	4	Quality is important and processes exist for quality assurance (QA).	Employees must participate in quality training before they can be added to the team.

Source: Adapted from Kathy Schwalbe's Information Technology Project Management.

Engaging Stakeholders

When project management teams properly engage stakeholders throughout the life cycle, fewer surprises occur because expectations are managed, making the project more likely to be accepted by stakeholders at its completion. Because stakeholders are continuously consulted and updated on the progress of the project, resistance is minimized and support for project activities can increase significantly. Appropriate communication methods (interactive, push, or pull methods) can be employed to ensure that project progress information is available as needed by stakeholders. Interpersonal and general management skills can be utilized to manage engagement issues and to encourage key stakeholders to air their concerns about the project sooner rather than later.

Engagement Levels

Practitioners must make every effort to understand their stakeholders' current and desired levels of engagement so appropriate management strategies can be created. Is a stakeholder "on board" with a project or resistant to it? Is a stakeholder passive about the project, when he or she should be leading it?

A stakeholder engagement assessment matrix is a simple tool to identify (and manage) gaps between current and desired states of engagement. This matrix lists five levels of engagement based on the stakeholder's attitudes toward the project:

- 1. Unaware of the project and its potential impacts. Hopefully, there are very few stakeholders in this category.
- 2. *Resistant* to the project and the changes it will create. This can be particularly problematic if these individuals have the ability, power, or influence to derail the project entirely.
- 3. Neutral (neither resistant nor enthusiastic) toward the project and its impacts. Disinterested stakeholders can be a drain on

- resources if they are not engaged in ensuring project success but still consume the time and effort of project team members who must continually interact with them.
- 4. *Supportive* of the project and its changes. The project team should actively engage this group of stakeholders to assist in solving problems and altering the attitudes of neutral, resistant, or unaware stakeholders.
- 5. *Leading* the project through active engagement and influence. Through their power and influence, this group can also be enlisted to modify the attitudes and actions of unwilling or disengaged stakeholders.

The gaps between the level of engagement each stakeholder is presently at (the current level) and the level he or she should be at to enhance the project's chance of success (the desired level) are then recorded on the matrix, and strategies are devised to bring any differing levels into agreement.

Video Commentary

Engaging Reluctant Stakeholders

Richard Maltzman

Engaging reluctant stakeholders. You need to show these stakeholders what's in it for them in particular. Failing that, you may have to work a "quid pro quo"--that is, calling in some kind of a favor. And of course, you have the project charter at the ready signed by a person of authority to wave at them and say, "This authorizes me to ask for your help, respectfully, in this project."

Rich Maltzman, PMP[®], is the Learning and Professional Advancement Leader at a major telecom supplier.A contributor to the *PMBOK*[®] *Guide*, 4th Edition, he has co-authored PMP[®] Exam study guides. He is co-founder at EarthPM, LLC, and along with co-founder David Shirley, PMP[®], has authored the book, *Green Project Management: Planet, Projects, Profits, and People*, published in September 2010. He received a BSEE from the University of Massachusetts in Amherst and has a graduate degree in industrial engineering from Purdue University.

The stakeholder engagement matrix can also be helpful in assessing any processes that the team uses to monitor and control their engagement of stakeholders. Appropriate strategies for stakeholder interaction should be reflected in a marked improvement in the engagement levels on the matrix. If these levels do not show improvement, procedures should be refined and enhanced to progressively upgrade stakeholder support.

5.13 Communication Skills

Communication Skills

To successfully interact on projects, stakeholders and practitioners must develop communication skills that will help to enhance their interactions. Because project participants work collectively to plan and execute projects, these skills are especially important to ensure that interpersonal issues do not interfere with project progress.

Communication Skills

The importance of effective communication on projects cannot be overstated. Clear and consistent communication between stakeholders and project team members ensures that problems are addressed quickly and that project needs are understood by all involved. Open and honest communication enhances trust and respect among project participants and fosters a sense of inclusion in project progress.

As a project practitioner, it might be helpful to review the guidelines below with stakeholders (and with all project participants) to ensure that their communication is direct, effective, and respectful.

Guideline	Description		
Specificity	When communicating with coworkers, focus on specifics rather than generalities.		
Accuracy	y Provide information that you know to be true and reliable.		

Relevance	Stay focused and provide only the information needed by your colleagues to understand your point.			
Completeness	Provide all the necessary information to support your message. Don't leave out important details.			
Logic	Ensure that messages are logical and easy to follow.			
Tact	Be aware of your audience's feelings. Specify why you agree or disagree with ideas, providing positive feedback where appropriate.			
Awareness of your audience	Use language that suits the level of background knowledge that your audience has, and employ simple words, sentences, and explanations wherever possible. If you have to use words that you think your audience might not understand, make sure to explain them.			
	Think carefully about what you want to say before you say it. Consider each of the factors in this list before you speak so that you can identify those descriptive details that make sense to include (as well as those that don't).			
Feedback	Ask teammates for feedback and comments on communication.			

5.13.1 Exercise: Communication Skills Crossword Puzzle

This assignment does not contain any printable content.

5.14 Discussion Board

This assignment does not contain any printable content.

Module Feedback

This assignment does not contain any printable content.