

Project Management Communication Tools

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Printed in the United States of America

First Printing, 2015

ISBN 978-0-9858695-2-6

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1210 N 42nd Place
Renton, WA 98056**

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Chapter 11

Communication Tools for

Human Resource

Management

IN THIS CHAPTER

- ◆ Introduction to the Circle-of-Communications chart
- ◆ Introduction to the Histogram report
- ◆ Introduction to the Project Organization chart
- ◆ Introduction to the Responsibility Matrix (RACI)

On most projects, managing project team members can be challenging because most of them are not your direct employees; they are often on loan to you from their functional manager(s). If they are contractors, they do not even work for your company. Usually, you have no authority to hire or fire them, nor are you even responsible for issuing their paychecks. You are simply a project manager with the resources that were available when the project started. It can be a struggle sometimes to motivate them to work late or perform extra tasks that may be over and above the actual duties. Another resource management challenge is planning so that resources have a balanced workload and are not overworked so as to avoid resource burnout. For example, a team member might have multiple assignments and your project is only one part of their total workload. Planning and balancing your team's workloads across multiple projects is complex for any project manager. It's wise for multiple project managers to communicate and plan the workload of shared resources.

One of your main responsibilities is obtaining resources for your team. You need to find the right project skills for the right roles. You must also ensure that your team understands their roles and specific project responsibilities. At the same time that the project is executing, you should be reviewing your resources. You will spend time deciding where you can improve team skills, work performance, and project contributions.

In this chapter, we explore project communication tools for the human resource management knowledge area. These tools help you communicate effectively and manage your project resources. Each tool can improve your overall project communications.

Introduction to the Circle-of-Communications Chart

The *circle-of-communications chart* identifies and documents the various project roles. The chart format is easy to follow and removes project politics of who reports to whom. Most project managers work in a team environment where they have a set of employees or vendors that do not formally report to them. Therefore, putting yourself in the top position on a formal organization chart and the team members beneath you is political suicide. Using a project organization chart to document team member relationships to you is problematic. Doing so puts yourself in a position where it appears that team members functionally report to you. On projects where you are functionally responsible for team members, a project organization chart may make sense, but even then, the focus is on reporting relationships and not communications, which is a problem. This is where the circle-of-communications chart is so valuable. The chart clearly shows the project manager as the center for all project communications. Because 90% of your job is communications, you should be the center of project communications. Another way to look at it is that all formal communications coming in and out of the project go by you, the project manager. There are no exceptions to this process; you own project communications.

Note

The Project Management Institute's knowledge area for this tool is the human resources management area. The secondary area that this tool could be associated with is communications.

Tool Value

The circle-of-communications chart provides a view of everyone involved on the project.

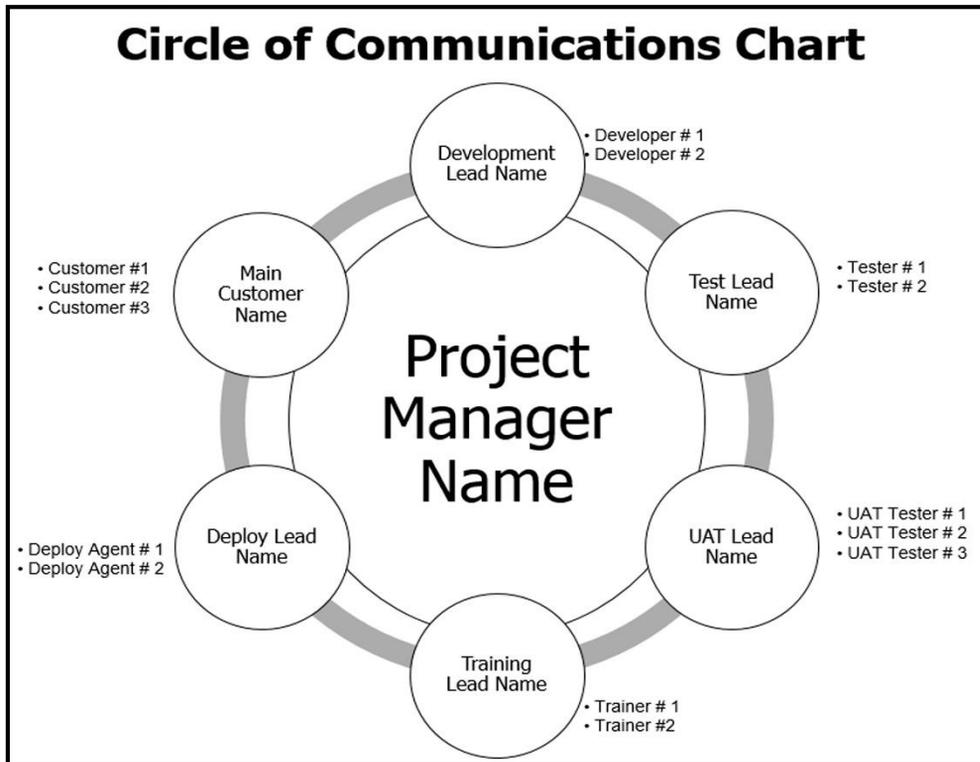
Social Media Tools

The communication purpose for the circle-of-communications chart is to inform. Communication from the chart can be posted on social media tools, such as Yammer, Socialcast, and Facebook (private group).

Figure 11.1 — Example of a Circle-of-Communications Chart shows an example of a circle-of-communications chart. The chart is simple and easy to follow. The project manager is located in the center of the chart, which clearly indicates that the project manager owns project communications. It does not mean, however, that communication cannot occur without the project manager, it only means that the project manager must be involved in formal and final communications.

Let's break down **Figure 11.1** to learn about the chart. As you can see, this example is for an IT software development project that has six project leads and individual team members who work for those leads. For example the development lead has two developers working for him or her, the Test Lead has two testers, and so on. Simple and easy to understand, right? What is unique about the chart are the lines that connect each project lead. The lines between the leads represent communication among the leads. Another unique part of this chart is the project manager circle. We already pointed out that you, the project manager, are the center of communications so you have the biggest circle on the chart. But, the project manager circle is also touching each of the leads' circles on the chart. The project manager constantly connects and communicates with the project leads in each smaller circle, which makes sense because projects that have team leads usually have a direct communication path to the project manager. Many companies create project teams with a project manager and team leads from each functional area needed on the project. Those team leads from the various functions would have team members that functionally report to them throughout the project. The concept of using core teams and extended teams is common in the project management industry to help people understand their roles. In this example, the leads in the six circles are part of the project's core team and the communication point between the project manager and the project's extended team members.

Figure 11.1 — Example of a Circle-of-Communications Chart



Now that you understand the design and look and feel of the circle-of-communications chart, let's focus on using the chart as a communication tool.

To understand the communication side of the tool, there are a couple areas to cover. The first area is that all formal and final communications must go through you, the project manager. When team members or team leads want to informally communicate, they don't need to keep you fully informed, they can communicate without you to keep the project moving. Once there is formal communications between the team leads and something that needs to be shared to customers or leadership, you must be in the loop for those communications. The following example will help you understand how to use the chart for communication. The customer directly asked the User Acceptance Testing (UAT) tester for the UAT Test Pass #2 test results. In that project scenario, would the UAT tester go directly to the customer and provide the results? They could, there is nothing stopping someone from communicating with the customer, but it is not the official process and could cause problems if the customer reacts the wrong way to the results. If the UAT tester provides the direct results to the customer, bypassing you the project manager, that would not honor the golden rule that official communications goes through you the project manager. In this example, the UAT tester should follow the formal process and communicate only to his or her lead. The lead then shares applicable information with only the project manager. Finally, the project manager shares the information with the customer, if needed. You're probably thinking, "Wow, that's some overhead just to provide some test results." While that appears to be true to, but project managers realize that is far from the truth. In this example, the UAT tester had no idea that the project manager and another tester had not completed testing. The results from all of the testing have not been recorded. So, if someone provides test results to the customer at this point, the data would be wrong, creating even more problems for the project

manager. The impact and politics of providing false data to a customer can be negative and long lasting. To avoid that, the communication process must be followed and all formal and final project communications must go through you, the project manager.

Another valuable and overlooked area of the circle-of-communications chart is remembering to add to the chart the names of everyone working on the project. By putting names on the chart, you indicate that only those individuals should receive project communications. This is often overlooked because it is so simple. If your name is not on the chart, you should not receive project updates and regular communications. By creating the circle-of-communications chart, you document and outline everyone involved on the project and who you are responsible for communicating with. The data you collect when creating the chart is data you will use in other communication tools, such as the communication requirements matrix and the role report matrix and therefore it is a best practice to create the circle-of-communications chart before creating any other communication tools. You won't be effective creating the other communication tools without creating the circle-of-communications chart first because you need to identify who you need to communicate with before you can complete the other tools.

Cross-reference

See Chapter 2 – Planning Project Communication for more information about the communication requirements matrix and the role report matrix.

Planning to use a circle-of-communications chart

When planning to use a circle-of-communications chart, you must first focus on its purpose, and then decide where and how to use it. You use the chart to collect the names and roles of project stakeholders, so how you use this data after it is collected is simple. You use this information to drive all project communications, such as setting up distribution lists, deciding who receives project status, deciding who should attend status meetings, and finally determining with whom to communicate with throughout the project.

You can use the circle-of-communications chart in several project documents. It is an effective project communication tool. The circle-of-communications chart is used in project communication charts, newsletters, status reports, and so on. For example, you use it to develop the project's stakeholder register and for the project's communication plan. The circle-of-communications chart won't include all the information that the other documents contain, but that is why it is such a quick and simple tool to create. Just add the roles and the names to start the process.

Reporting from the circle-of-communications chart

You will regularly use the circle-of-communications chart for reporting and communicating who is involved with the project. Reporting from the circle-of-communications chart is helpful when people ask you who is working on the project, who your customers are, who to send project information to, and so on—all of the information is on the chart. There will be many occasions where you will report from and communicate what is on the circle-of-communications chart; it is a best practice to add it directly to your project communications plan.

Cross-Reference

See Chapter 16 - Using Communication Tools During the Initiating Process to learn more about how to plan, create, and use a circle-of-communications chart.

Introduction to the Histogram Report

The *histogram report* displays project information using an easy-to-read graphic format. The histogram report consists of vertical bars across multiple categories along the horizontal axis. The report shows what proportion of data falls into each category and where the data can spread across those multiple categories. You use histogram reports for various reasons. Examples include cost and labor hours, percentage of time to a certain area, and number of used sick and vacation days per quarter. It is unbelievable the number of different reports that are possible using the histogram format. It is up to your imagination to decide which reports you want to create for your projects.

Note

The Project Management Institute's knowledge area for this tool is the human resources management area. The secondary area that this tool could be associated with is risk.

Tool Value

A histogram report is an instantly recognizable graph for your customers that shows variances in data categories. The chart displays simple variances between the horizontal data and the vertical values on the graph.

Social Media Tools

The communication purposes for the histogram report are to inform and instruct. Communication from the histogram report can be posted on social media tools, such as Yammer, Socialcast, and Facebook (private group).

You and your team will regularly communicate your project's histogram report throughout the project's life cycle. Some of your customers will expect multiple histogram reports so that they can continually monitor the project. Other customers may want only a few reports to ensure that they stay on top of the project but are not bogged down with too many reports. In either scenario, work with your customer to ensure that they are comfortable with the number of histogram reports they receive. If your customer wants more or less reports, adjust your communications accordingly.

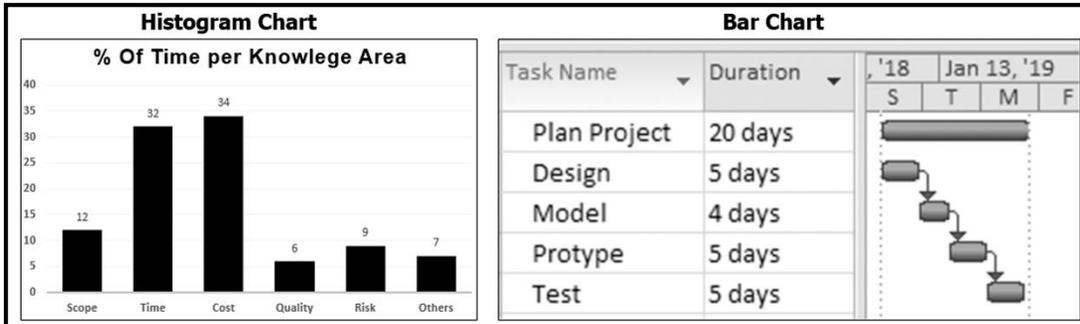
Note

Histogram reports are also called stacked charts or skyline charts.

People commonly confuse histogram reports with bar charts (for example, the Gantt chart). Those outside the project management profession consider a histogram report and bar chart to be the same. Let's look at the differences to avoid any confusion.

Figure 11.2 — Example of a histogram report and bar chart shows a histogram report on the left and a bar chart on the right. You can easily see the differences between the two.

Figure 11.2 — Example of a histogram report and bar chart



The process for creating histogram reports is project specific and often falls on you to decide the process and communicate it to the project team. You select the information that you want to show in the histogram report. You decide with whom to share the report based on the data captured in the report.

Cross-Reference

See Chapter 22- Using Communication Tools in Executing and Controlling Process to Report Project Information for more information about creating and using a histogram report.

As long as the data is available and refreshed for each reporting cycle, there are few challenges to creating a histogram report. The only challenge worth mentioning is ensuring the data is available and relevant—creating the report is simple. You cannot rely on a regular histogram reporting cycle if there are problems getting refreshed data for the report.

There are many project areas where histogram reports are useful for reporting, such as:

- **Cost management:** The histogram report displays information such as actuals, budget overtime (by week, month, quarter, and so on), and vendor cost comparisons over a stated period. The histogram report is a great choice for reports showing rental equipment costs, consultant hours, and other project costs where it is important to have visibility on ranges such as time. The possibilities and number of histogram reports are almost unlimited.
- **Resource management:** The histogram report displays resource availability over time. The chart shows budgeted and actual work hours, per week, for individual resources. In **Figure 11.3**, below, Bill is working the most hours in the group, which makes it is easy to determine who is working the least amount of hours. Histogram reports also show which resources have worked on project activities over their current workload. You will often use the histogram report to see the project's resource allocations. Use the report periodically (daily, weekly, monthly) to keep team members informed and accountable for the hours they are working and recording on the project. This resource hours per week data also helps you determine resource allocations for your project team members. Some resources might be over allocated, some might be under allocated. If the data shows either situation, adjust team members' assignments as necessary.

There are many benefits to using histogram reports: they display multiple levels of comparison data on a single chart. Multiple-level histogram reports, or stacked histogram reports, provide multiple data points on a single column of data. Another benefit is being able to drill down into a histogram report. You can select the highest level (summary level) of data, and then expand the data for additional details. Histogram reports are created by using a spreadsheet application and its chart wizards. The reports can be horizontal or vertical with two or three dimensions.

Because the histogram report is beneficial for many project areas, the data in the report determines who will benefit from using it. For example, if you create the histogram report with resource allocation data, the resources' functional managers will also want to use the report so they can see which projects resources are working on and how much time they are spending on each. If the finance department creates a histogram reports based on the project cost data, it becomes a key financial report for the finance team. The same report can be used in different project areas where project leads create their own histogram report versions. The histogram report is a robust and key communication tool for many members of the project team to use.

Planning to use a histogram report

When planning to use the histogram report, you must first decide which project areas will benefit the most from the report. Resource, cost, and scheduling areas are potentially best suited for this report type, but it can vary from project to project. Next, find out your customer's reporting needs, such as what type of data the customer wants to see and how often they expect them. Sometimes, customers have specific reporting requirements and the histogram will usually meet the needs of your customer. You also need to determine who will create the reports and ensure that he or she is scheduled enough time to perform work activities and create the histogram reports. After performing these planning steps, you have adequately planned for using histogram reports on your project.

Reporting from a histogram report

Usually, you are responsible for creating a histogram report on a project. On large projects, the administrative team is usually responsible for creating and communicating the histogram report.

The histogram report is a great communication tool for messaging specific project information to project customers. You will enjoy how quickly you can create a report and communicate it to your customers, and your customers will appreciate getting the information in a format that is easy to follow and that provides valuable project information.

Figure 11.3 — Example of a Histogram Report (Hours Worked per Resource) is an example of a histogram report. This example shows the hours per week for four project resources across a five-week period. Histogram reports are helpful for tracking project problems. Data, such as resource burnout, resource budgeting, or other project issues are all valuable to report with this tool. For example, the resource "Sam" on the chart is falling behind in his work because he had a short week in the third week and is now catching up, so his work may suffer.

Figure 11.3 — Example of a Histogram Report (Hours Worked per Resource)

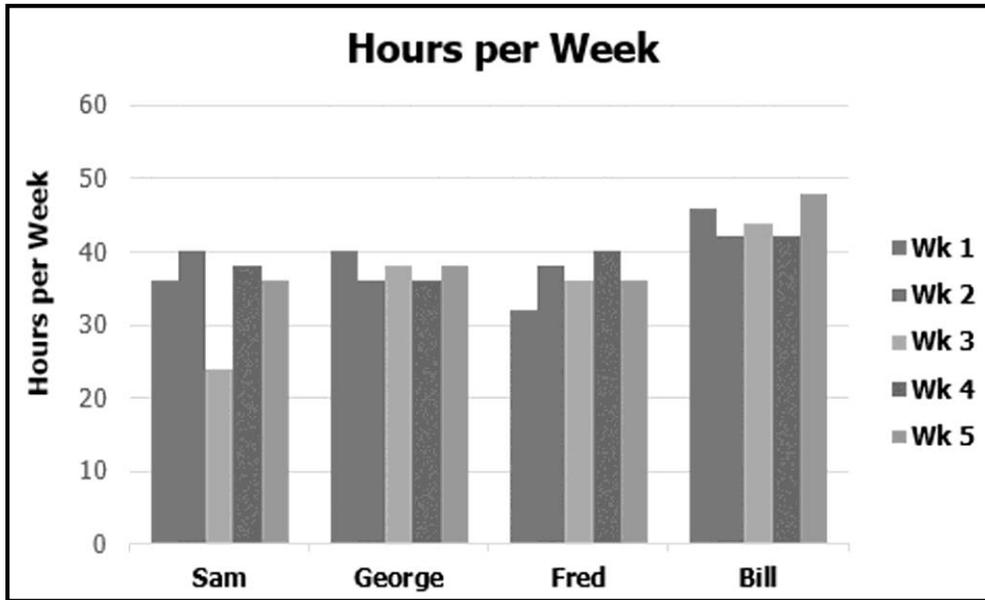
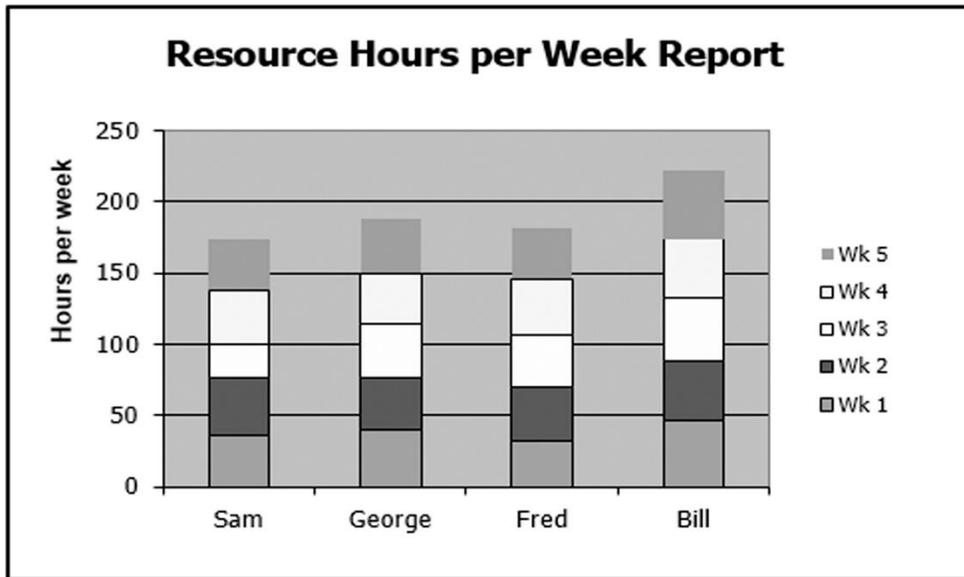


Figure 11.4 — Example of a Histogram Report (Work Hours per Resource) shows a second histogram report with a stacked histogram report in a 3-D format. In this example, it is difficult to find a particular resource’s hours per week, but easy to see the cumulative hours per week for all resources. You can find out the number of hours worked in a chart like this better than most other reports. For details about an anomaly on this chart, you can create a detailed chart that shows what data is causing the issue.

Figure 11.4 — Example of a Histogram Report (Work Hours per Resource - Stacked)



Add histogram reports to your standard reporting cycle on a weekly, bi-weekly, or monthly basis. The histogram report depends on the project's reporting cycle and the specific data required for the report. You create a histogram report by using the graphs included in a spreadsheet program. Then, you can make the report available in PowerPoint or on an internal website for anyone to access. It is a best practice to store the histogram report in the document control system for long-term archiving and availability to everyone.

Introduction to the Project Organization Chart

The *project organization chart* displays the project's organizational structure. Team members (especially new ones), customers, or management can use this chart to see who is working on the project and to understand their roles. The project organization chart helps team members decide with whom to communicate on the project. When reviewing each team member's assignment, you can cater your communications to them. For example, you would not send a plumber a work request for something electrical, or vice versa. The project organization chart also offers an at-a-glance view of missing roles (if applicable) and where the team might be short-staffed. Often, the project has a full team but may not have enough resources with a particular skill; for example, not enough testers in a software development project. The project organization chart may not specifically show staffing issues until you understand the project work needed. When you know the required project work, the organization chart may indirectly show that you need more resources for a particular role. A project organization chart for large projects let team members see across roles to discover contacts and team leads, which helps with team communications—especially team leads. On small projects, team dynamics are easier to manage, but a project organization chart still offers the same benefits as it does for large projects, just on a smaller scale. Either way, anyone can look at the project organization chart to see how big or small the project is.

Note

The Project Management Institute's knowledge area for this tool is the integration area. There are no other knowledge areas for this tool.

Tool Value

A project organization chart communicates project roles and their relationships to one another along the lines of authority. It shows the positions of all team members and is easy to follow.

Social Media Tools

The communication purposes for the project organization chart are to inform and instruct. Communication from the chart can be posted on social media tools, such as Yammer, Socialcast, and Facebook (private group).

The project organization chart provides several bits of information at a single glance. This chart shows a person's role and level on the project and each team member's reporting structure. The reporting structure, however, is one of the main issues that you can run into when using a project organization chart. The fact that you can see the team's reporting structure—with you on top of the reporting structure—can cause some major issues. On most projects, the project manager is not the functional manager of the project team's resources and is just assigned the people to work on the project; there is no formal reporting relationship. When you put yourself at the top of the organization chart, some team members get offended. Sadly, this happens all the time and you need to be aware of this potential political situation. If you hear resources complaining about the project organization chart, the easiest solution is to choose another tool. The politics and bad relationships this can cause with team members are not worth it. Instead, use the circle-of-communications chart covered earlier in this chapter. The circle-of-communications chart takes the politics out of who reports functionally to whom and lets you work more effectively with your team. However, if you can work through the team politics, the project organization chart is a great tool.

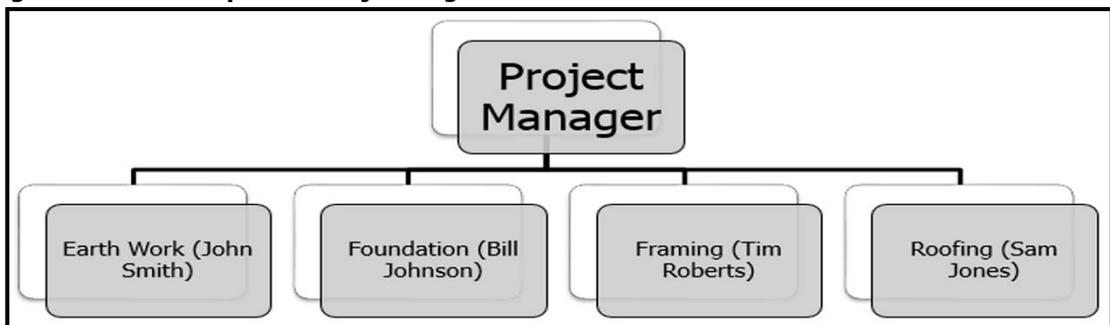
A project organization chart can also help you understand the communication links associated with the project. In *Chapter 3 - Working with Project Communications*, we discuss the various advantages and challenges of project links. When reviewing the project organization chart, you can decide how challenging your project will be from a communication link perspective. Total the number of resources on the organization chart to get the number to add to the link calculations as described in the formula in *Chapter 3 - Working with Project Communications*.

Cross-Reference

See Chapter 3 – Working with Project Communications for more information about communication links.

Figure 11.5 — Example of a Project Organization Chart shows a basic example of a project organization chart for a construction project. This project organization chart represents two levels of organizational structure. The first level shows the project manager and the second level shows the major project areas. The team leads are not necessarily individual contributors, they could be, but they are more like functional leaders for each group. Each team leader usually has team members under them who perform the work activities. In this example, the project manager may not know everyone’s names, but he or she works directly with the lead for a particular area, and then that lead coordinates the team’s work. In this example, the project manager works closely with Bill Johnson, the Foundation lead, but may never work with a single member in Bill’s group.

Figure 11.5 — Example of a Project Organization Chart



A project organization chart shows the project structure. The project organization chart is different from a *company* organization chart in that the project organization chart is valid only during the project. In defining this structure, the communication channels form indirectly from you. Referring back to **Figure 11.5** if there is a lead for a particular project area (Foundation, for example), the project manager would first communicate with that lead (Bill) to request approval to talk to Bill’s team members, and only then would the project manager approach any of them. This is a respectful approach to project communications.

Usually, you are responsible for creating the project organization chart. Create the chart at the beginning of the project when there are just a few team members because it is easier to create with fewer resources, and then add to the chart as more team members arrive. As new members join the project, add them to the chart as soon as they sign on to the project. If you wait until later in the project, or when all assigned team members are on board before creating the organizational chart, it may never get finished. Usually, the organizational chart does not have the same priority level as your other project deliverables, so completing it early in the project is best so it gets done and is out of the way. Project managers or administrative support staff is usually responsible for capturing, compiling, and reporting the project organization chart on large projects.

Project organization charts are graphic and, therefore, a wonderful communication tool. The project organization chart may include color to communicate different work streams. The organization chart is used in various ways to communicate project information. Some project managers post the organization chart on a wall or in a central location, and others use it regularly in project presentations.

Tip

Another best practice, if possible, is to take pictures of each team member and add them to the organization chart. The pictures are valuable when new team members are looking for someone or want to put a name to a face.

The project organization chart shows the managers and team members staffing the project. The chart shows the different relationships among staff members, such as:

- **Line:** Shows the direct relationship between superior and subordinate.
- **Lateral:** Shows the relationship among different departments on the same hierarchical level.
- **Team Member:** Shows the relationship among the project manager, leads, and team members. Most likely, you won't have authority over team members because they usually report to different functional managers.
- **Functional:** Supplies resources to the project and is not shown on the chart.

Planning to use the project organization chart

In preparing (planning) to create and use a project organization chart, you must first decide who the project team members are and which roles they are filling. You need to know how to structure the project and decide who will assume team leadership roles. Different projects have different leadership roles; the project manager sets up the structure based on the roles. The project manager communicates the project structure to the various project leads to ensure those leads are accountable and responsible for their work areas. When working with the leads, you decide who the assigned team members are and who is missing. You can complete the organization chart when applicable, but if staff keep changing, it may be impossible to completely finish the chart.

Tip

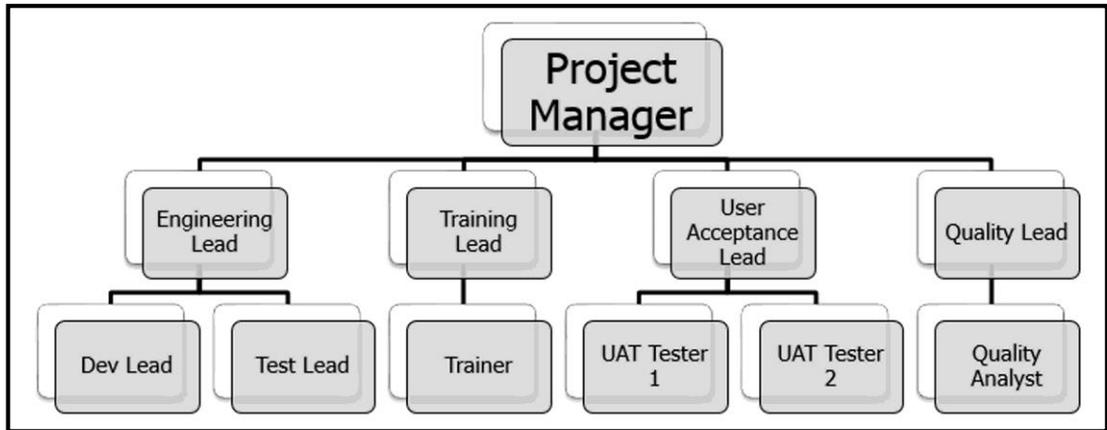
Project managers should make a copy of their project's organization chart and display it during the weekly status report for easy reference.

Reporting from a project organization chart

The reporting process for the project organization chart is straightforward. When the first draft is complete, report it to the project team, customers, and management. Then, whenever a new team member joins or if someone leaves, update the project organization chart. At the start of the project, the chart is dynamic because you are adding staff. A weekly update is suitable during the beginning. Later, update the chart only when necessary, because it usually remains stable and people do not come and go that often. At the end of the project, when team members leave, adding a simple "X" through their boxes may be enough to keep the chart current if you don't have time to formally update the chart. Otherwise, update the chart as time permits and post a new copy to keep everyone on the project informed.

Figure 11.6 — Example of a Project Organization Chart shows a more advanced project organization chart than **Figure 11.5** because the chart includes more than one level. This example shows not only the team leaders, but their assigned staff. This is a great project organization chart for discussing staffing alternatives and deciding whether there is enough staff for the project workload.

Figure 11.6 — Example of a Project Organization Chart



Other than the first draft, you will only produce a new chart when updating the project organization chart. You can use a presentation format, such as PowerPoint, to create the chart. The project organization chart is stored as part of the document control system, which allows for long-term archiving and availability to anyone interested in reviewing it.

Cross-Reference

See Chapter 16 - Using Communication Tools During the Initiating Process to learn more about how to create and use the project organization chart.

Introduction to the Responsibility Matrix

The *responsibility matrix* (RACI) document includes the accountabilities and responsibilities for each project role. The RACI defines the roles and responsibilities across the project. You lead your team by documenting each project role across the top of the RACI and each project activity down the side of the RACI. Where the role and the activity meet (intersection cell) is where you document the project accountabilities. The best time to create the RACI is at the beginning of the project when the project team jointly fills in the accountability levels for each role. For example, when the team looks at the designer role, they need to decide where the designer will be involved and at what level. So, the team would document in the intersection cell an "A" for accountable, an "R" for responsible, a "C" for consulted, and an "I" for informed. When you sit back and look at it, you will see exactly what that designer is going to do for each project activity. It is a simple and easy process to follow and a valuable tool for any project. At the end of this process, all of the project roles are documented. It is important that everyone agrees and signs off on the project RACI. That sign-off will be valuable to you as you run the project.

Note

The Project Management Institute's knowledge area for this tool is the human resources management area. There are no secondary areas for the RACI.

Tool Value

The RACI shows team members' assigned project tasks. Some RACIs further identify the level of authority assigned to a particular role.

Social Media Tools

The communication purposes for the RACI are to inform and instruct. Communication from the RACI can be posted on social media tools, such as Yammer, Socialcast, and Facebook (private group).

When creating the RACI, you should understand the four common accountability levels. There are different matrixes used in the industry, but there are only four main assignments in the RACI. The RACI diagram splits project deliverables into the following responsibility levels:

- **Accountable:** The resource who is ultimately accountable for completing the task, but may not complete the work themselves. Only one resource can be accountable for any project activity.
- **Responsible:** Those who complete the work tasks or develop deliverables to achieve the tasks. Multiple resources can be responsible for a project activity.
- **Consulted:** Those from whom you sought opinions from or consulted with, but who are not responsible or accountable for the work deliverable or task.
- **Informed:** Those who you are responsible for keeping informed and up to date about the project, but who are rarely involved in the project. This is usually a one-way communication only and tends to be leadership or management.

On software development projects focused on developing databases, there is a different RACI, called the CRUD Matrix. CRUD stands for create, read, update, and delete, which are specific levels of security access that are assigned to someone for controlling database data. Some users require more access than others to update data. Other users only need to read the data.

The following responsibility/security levels define the access level that various project roles can have to access data within the software application. These security levels include:

- **Create:** Ability to create database tables. The user would be able to add database tables to the system, change column names, change column sizes, and so on.
- **Read:** Ability to read database tables. The user would be able to read data from the tables that they have access to.
- **Update:** Ability to update database tables. The user would be able to update data in the tables that they have access to.
- **Delete:** Ability to delete database tables. The user would be able to delete data in the tables that they have access to.

In the construction industry, the project manager uses a RACI on most projects. There is a role for each person on the RACI. Communicating the RACI to stakeholders can be challenging due to its volatile nature. For example, a project manager asks a team member if he has completed a particular project activity. If the team member didn't know he was assigned to the activity, there's a good chance he wasn't working on it. The project manager would show the team member the RACI so he could see that he is assigned to the activity. During this interaction, the project manager could handle the situation in one of two ways. The first approach is to be demanding and tell the team member that he should have known that this was his assignment and to work only on tasks assigned to him. This approach usually doesn't work in the long run. Or, the project manager could take a more gentle approach and discuss the team member's outstanding tasks and ask him to complete the work. Either way, approach the matter carefully. Finally, a best practice is to go through the RACI with your team. That way, everyone knows their assignments and there are no surprises. The RACI is one of the more challenging communication tools for you to use on your project.

RACIs have many benefits, the most important being establishing accountability and responsibility for the project team. This benefit is by far the most valuable and the one tested throughout the project life cycle. For example, you refer to the RACI when assigning team members specific project tasks. On the other hand, when team members are assigned tasks, they check the RACI to confirm that they are responsible for completing the task. It is common to assign tasks to team members and have them check the RACI to confirm that the assignment is suitable. If not, you may need to find a more suitable resource.

Figure 11.7 — Example of a Responsibility Matrix Chart shows a RACI. In this example, you can clearly see the project roles across the top and the project activities down the side. The project's methodology, business requirements, system requirements, and design break into logical sections. In the intersecting cells between the roles and the project activities, there are a series of letters: A, R, C, and I. These letters represent the accountability level of the project role to that project task. The legend for this chart is located on the top-left corner of the chart and describes the accountability levels noted on the chart.

Figure 11.7 — Example of a Responsibility Matrix Chart

| Responsibility Matrix Chart | | | | | | | | | | | | |
|--|----------------------------|----------|---------------|--------------------|-----------------|--------------|----------|----------|-----------|------------|--------------|-----------------|
| Responsibility Codes: Responsible: Performs the work Accountable: Ultimately accountable for delivery; maximum one per task Sign-Off: Approval must be gained for deliverable to be acceptable Consult: Review & provide feedback Informed (blank) = not involved | Proj Mgr | UAT Lead | Training Lead | Release Management | Sponsor 1 (TBD) | Lead Analyst | Designer | Dev Lead | Test Lead | Tier 1 Rep | Release Lead | Operations Lead |
| | System Requirements | | | | | | | | | | | |
| Task C | I | | | | | R | | | | | | |
| Work Product A | | R,A | | | | | C | | | | | |
| Design | | | | | | | | | | | | |
| Work Product A | | | I | I | C | | | R | C | I | | |
| Work Product C | | | | | | | C | | | | | |
| Build | | | | | | | | | | | | |
| Task F | | | I | I | C | | | R | C | I | | |
| Task H | | | | | | | C | | | | | |
| Test | | | | | | | | | | | | |
| Task I | R | | | | | | | | | | | |
| Work Product A | | | I | I | C | | | | C | I | | A |
| Task K | | | | | | | C | | | | C | |
| User Acceptance Approval Phase | | | | | | | | | | | | |
| Task L | R | R,A | R | | | | | | | | | |
| Work Product A | A | | | | | | | | | | | |
| Task N | | A | | | | | | | | | | |
| Production Phase | | | | | | | | | | | | |
| Work Product A | I | | | | | | | R | | R | | |
| Task P | | | | C | I | | | A | | | | |
| Work Product B | | | | | | | | | A | | | |
| Post Production Support / Warranty Period (if Applicable) | | | | | | | | | | | | |
| Task O | I | | | | | | | R | | R | | |
| Task Q | | | | | | | | | A | | | |

The best time to create the RACI is at the beginning of the project, before any work activities begin. After selecting the project's team members, meet with the team to go through every role and item in the RACI chart. The meeting goal is to select the suitable accountability and responsibility for each project role. Often, team members are unclear about their roles, so reviewing the RACI as a team is one way to ensure everyone understands their roles. Even on small projects, it is important to understand who owns a task or deliverable at the beginning of the project.

Usually, you will find there are many project roles that have a combination of responsibilities for the project tasks. It is common to see a dual role of A/R for a single activity, meaning the project role (Customer) is both accountable and responsible to create the deliverable (requirements document). Another example is a project manager who is responsible for developing a project schedule and who is accountable for the project schedule.

Software projects are unique in that occasionally you might use a RACI and a CRUD matrix for a single software project. When software projects include databases, a large part of the project is focused on security. As noted earlier, the CRUD matrix enforces table security, so it is used on all software projects with databases. Every software project that includes databases and tables should include some form of security. Work with the database administrator to decide which roles need database access, and then create the CRUD matrix and grant proper access to those roles. Without a CRUD matrix, the tables would be completely available for anyone to randomly delete or change table data.

Table 11.1 — Example of a CRUD Responsibilities Matrix represents a basic CRUD matrix example. The CRUD matrix defines the application roles with the tables and responsibility levels. The report is easy to follow and easy to create. The chart in the example shows that the Administrator role has full access (CRUD) to all of the tables, and the Guest role has limited, read-only (R) access to the tables. As you review the chart and its various roles, you can see each role assignment for this software project. For communication purposes, you could easily share this chart with everyone on the project to ensure that it is correct.

In the CRUD matrix example, there is a role-to-table assignment for every table. Each role assignment has a C (Create), R (Read), U (Update), or D (Delete) in the intersecting cell to indicate the table security level. Software projects use this matrix for specific roles when those roles need to access or update the database.

Table 11.1 — Example of a CRUD Responsibilities Matrix

| Task/Responsibility | Administrator | Power User | End User | Guest |
|---------------------|---------------|------------|----------|-------|
| Table A | CRUD | CR | U | R |
| Table B | CRUD | CRU | C | R |
| Table C | CRUD | R/A | C | R |
| Table D | CRUD | CRUD | C | R |
| Table E | CRUD | CRUD | D | R |
| Table F | CRUD | CRU | U | R |

In some applications, there could also be a need to include roles such as Administrator, Power User, or Guest, and each role would be assigned at least C, R, U, or D in the table for the application. Often, the Administrator role is assigned CRUD for an application that indicates the Administrator role can do anything to the tables. Another example is a Guest role that is assigned an R role, indicating that they have Read access to the tables; they would be unable to create, update, or delete table data. Read access is perfect for a guest user on a system.

When completing a project RACI, it is a best practice to make sure that each project role has a minimum assignment of I (Informed). The I role is often used for team members or other interested parties regularly receiving project information and who want to access project details when needed. Providing an “Inform” assignment maintains constant communication and provides visibility for stakeholders to help them stay connected to the project.

In some projects, team members are assigned multiple roles for a project task, which are documented in the RACI. For example, team members might have both Accountable and Responsible roles for a project

activity. Typically, however, when the role assignment is Accountable, the second role type is Responsible. We noted some of these examples earlier, but another example is a test lead on a software project who is “responsible” and “accountable” for developing and approving the software test plan. When a team member is assigned multiple roles, you might be able to reduce the project staff because resources are responsible for more of the project workload. However, in other cases, you may not be able to reduce the size of the team at all. Usually, team members are assigned multiple project roles because of specific project needs.

Planning to use the responsibility matrix

When planning to use a responsibility matrix, you first need to know your project’s methodology. The project methodology drives the RACI framework and divides the project into manageable pieces. Then, you can focus on project roles for completing the tasks within the methodology. Next, you can fill those roles with project team members. Finally, review previous RACIs to understand where other projects used various roles. This gives you a better understanding of the roles and tasks that can help improve communications with the team. When planning a CRUD matrix, you must understand the various project’s application roles and the databases and tables within the application. Next, document the security level access to each role. Security level access indicates which roles can change data in the application’s tables. Work with the database administrator to complete the CRUD matrix.

Reporting from the responsibility matrix

You are responsible for creating the RACI. When the team approves the RACI, you can then store the responsibility matrix in the document control system for easy access. Approval should be straight-forward if you worked with the team to create the RACI because they would have approved it along the way. Work directly with anyone who rejects the RACI to find out their problems or concerns. Ensure that every team member signs and approves the RACI before starting project activities. When team members sign off on the RACI, they provide proof that they have seen the chart and accepted responsibilities and accountabilities in the chart. A lack of signatures can mean that the team hasn’t acknowledged the RACI, allowing them to not be as engaged as they should be, claiming they didn’t know about the chart or never approved their tasks. You can avoid this situation by ensuring that every team member signs and approves the RACI.

Database administrators start creating a CRUD matrix during the design phase for software database projects. Administrators wouldn’t finalize the matrix until much later in the project. Starting the matrix creation early is fine, but it won’t be finished until much later in the project.

You can include RACI details in an automated project scheduling tool. In doing so, you can update the matrix fields when you add new project activities. Thus, the effort to maintain the responsibility matrix is minimal and built in to the project schedule management. As each role is added to a project task, the nature of that role is documented. For example, when you add a tester to a test plan, you assign him or her as accountable and responsible within the schedule tool’s resource assignment. You can easily do this by documenting Tester (A) and Tester (R) in the resource field. The A and R assignments are the same as using a separate responsibility matrix and assigning an A/R in the intersection cell.

The RACI does not contain project status; therefore, you do not report from it during regular project reporting. You should create the RACI in a spreadsheet tool or in a document table format. It is a best practice to store the RACI in the document control system to allow anyone interested in the tool the ability to review it any time.

Cross-Reference

See Chapter 17 - Using Communication Tools to Administer the Planning Process to learn more about how to plan, create, and use the RACI.

Summary

In summary, the tools described in this human resource management chapter help you manage and control your team. Managing a project team can be challenging and is something that takes practice and experience to be skillful at for most project managers. Project managers who are team focused and team driven are hard to find. Using these tools will help you become a better communicator and a better leader for your team.

This chapter introduces tools such as the circle-of-communications chart, responsibility matrix (RACI), and the project organization chart. Out of all the tools, the circle-of-communications chart is the most useful because it gives you the best chance of communicating effectively on your project.

With tools like these, project managers and team members have an easier time controlling project resources, driving successful projects, and keeping team members content