

Project organizational planning

objectives are to ensure that:

- necessary people are for specific work time available
- each work package has an unambiguous owner
- each team member has clear understanding of his/her role and responsibility

contains

- definition of project roles and reporting relationships - creation of project control structure
- creation of mutual agreements concerning project staff acquiring, releasing from commitments and identification of training needs, plans for recognition and rewards

inputs

- activity resource requirements
 - preliminary requirements regarding the required people and competencies for the project team members
- enterprise environmental factors
 - organizational culture and structure
 - existing human resources
 - personnel administration policies
 - marketplace conditions
- organizational process assets
 - organizational standard processes and policies and standardized role descriptions
 - templates for organizational charts and position descriptions
 - historical information on organizational structures that have worked in previous projects

outputs

- roles and responsibilities
 - expressed in organization charts and positions description
 - hierarchical, matrix, and text-oriented format
- staffing management plan
 - when and how human resource requirements will be met
 - expressed in tables, resources histograms etc

Human resource planning in PMBOK

Consists on following steps:

1. defining roles
2. defining reporting relationships and responsibilities
3. establishing staffing management plan

Pictorially expressing:



Figure 1. Human resource planning by PMBOK

Step 1 - defining roles

Role – set of responsibilities, authorities and competencies

Responsibilities – work what is expected from team member to get a result

Authority - right to apply project resources, make decisions and sign approvals; right to choose work method, accept quality and respond to project disagreements

Competency – skills and capabilities, what are needed to complete tasks

With role are defined responsibilities, inputs and outputs to implement them

Roles in different methodologies

RUP roles - analysts, developers, testers, managers, others;

OpenUP roles - analysts, whatever role, architect, developer, project manager, stakeholder, tester;

Scrum roles – product owner, scrum master, scrum team;

XP roles - client, tester, programmer, tracker, coach

Here is one table illustrating these roles:

Table 1. Roles in agile approaches

Concept	Generic Agile	XP	Scrum	DSDM
Number of teams	1 – 6	1 team per project	1 – 4 or more	1 – 6

Team size	2 – 10	3 – 16	5 – 9	2 – 6
Team Roles	Product Owner, Agile Project Manager, Technical Lead, Developer, Tester, UX Designer	Customer, Programmer, Tester, Tracker, Coach	Scrum master, Scrum Team (Experienced Engineer, Junior Engineer, [QA Tester], [Writer])	Team Leader, Ambassador User, [Advisor User], Senior Developer, Developer, Scribe
Non-Team Roles	Business Sponsor, Agile Programme Manager, Architect, Agile Coach	Big Boss	Scrum master, Product Owner	Visionary, Executive Sponsor, Project Manager, Technical Co-ordinator, Facilitator

Project manager role in different methodologies

In RUP:

- acquires resources
- sets priorities
- coordinates collaboration with project customer and system end users
- tries to keep project team on the right course
- creates procedures for project outcomes

In OpenUP

- guides team to get successful result and customer to accept product
- estimates project risks and controls them through mitigation strategies

Step 2 – defining of report relationships and responsibilities

Putting in place project control and information flow structure. In other words - establishing project organization structure expressed in organization chart

- hierarchical-type charts – show positions and relationships in a graphic, top-down method
- matrix-based charts – illustrate the connections between work that needs to be done and project team members
 - RAM (Responsibility Assignment Matrix)
 - RACI (Responsible, Approve/Accountable, Consult, Inform)
- text-oriented formats – detailed description of team member responsibilities, authority, competencies and qualifications

One example of project organizational structure:

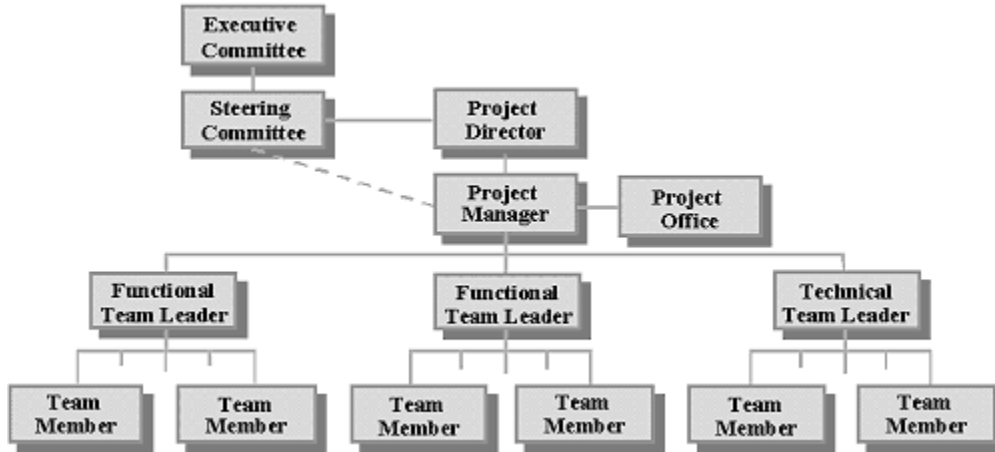


Figure 2. Project organizational structure example

One example of responsibility assignment matrix:

Table 2. Responsibility assignment matrix example

OBS units	WBS activities							
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.1.8
Systems Engineering	R	RP					R	
Software Development			RP					
Hardware Development				RP				
Test Engineering	P							
Quality Assurance					RP			
Configuration Management						RP		
Integrated Logistics Support							P	
Training								RP

R = Responsible organizational unit
P = Performing organizational unit

One example of RACI matrix:

Table 3. RACI matrix example

	Project Mgr	Bus. Lead	Tech Lead	Funct. Mgr	Sponsor
Create Project Plan	R	C	C	C	I
Acquire resources	R			A	
Develop requirements	C	R	R	C	A
Construction	C/I	C	R	C	
Quality Control	C/I	R	C	C	I
Close Project	R	C	C	C	A

Description of assignment roles

- **Responsible**
 - Individual/s who perform a task/activity; the doer, responsible for action/implementation
 - The degree of responsibility is defined by the Accountable person
 - Responsibility can be shared
 - While Accountability can NOT be delegated, Responsibility can be delegated
- **Accountable**
 - The individual who has ultimate accountability and authority
 - There is only one accountable (A) to each task/activity
 - Accountability is assigned at the lowest level and implied at higher levels
 - Accountability cannot be delegated
- **Consulted**
 - The individuals to be consulted prior to a final decision or action is taken
 - Two-way communication
- **Informed**
 - The individuals that need to be informed after a decision or action is taken

RACI benefits

- encourages teamwork by clarifying roles and responsibilities
- eliminates duplication of effort
- reduces misunderstanding
- improves communication - make sure people are not 'left out'
- determines ownership
- helps clarify activities and tasks in a process
- reduces bad decisions by ensuring the correct people are involved
- clarifies hand-offs and boundaries
- improves cross-functional view for all employees

Considerations about RACI

- *Accountable*
 - too many A's? - Probably a sign of confusion - no one will be sure who really had the task and each individual will probably have a different approach and/or expectation(s).
 - multiple "A"ccountable and unrelated resources can cause conflicts in differences of opinion
 - you should be sure the team members are co-chairs, co-leads, or at least in similar roles and will collaborate well together.

- many A's - Is this person a bottleneck? Can these tasks be shared or segregated?
- multiple A's should be kept to a minimum or each vertical column should have only ONE Accountable
- *Responsible*
 - multiple "R"esponsible can cause unnecessary or duplicate work.
 - make one team member responsible for each task.
 - lot's of R's - The individual may have too much to do - can the activities be broken into small sections and split out to others?
 - each vertical column should have one Responsible, but can have more in some situations of shared responsibility.
 - with no R's a gap occurs - Is the task being completed? Assign Responsibility.
- *Consult*
 - Form one side multiple "C"onsulted is desirable to collect input from all potential subject matter experts.
 - From ohter side - minimize the number of Consults - Make sure the consult is necessary and not just a 'feel good' contact.
- *Inform*
 - Keeping multiple people "I"nformed helps develop capacity.
 - If a team member is absent or unable to carry out work for any reason, you have developed a successor for that role.
 - Too many I's? Maybe some people only need to be informed if exceptional circumstances occur - Build the appropriate criteria into the process

In general:

- in general, any team member should have only one role.
- if any column is empty, consider if that resource is necessary for the project.
- no empty spaces in a row - Does this person need to be involved in every step? Try to reduce C's and I's First.
- completely empty row - Why was this function included? Are we missing including them when they should be? Can the function be correctly eliminated from the process?

Step 3 - defining project staffing management plan

Describes when and how human resource requirements will be met includes

- staff acquisition - how and through what methods the people needed for the project will be acquired, which may include both personnel internal to the performing organization and external to it, such as consultants
- resource calendars, timetables, and histograms - information on when resources will be needed and in what durations, shown through calendars, timetables, and histograms
- training - formal plan for project team member training, though informal training will also occur
- compliance and safety - any measures that will be taken to ensure that any safety, governmental, regulatory, organizational, or contractual obligations are followed that are applicable to human resource requirements
- team performance assessments - include any team performance goals, and how the overall performance of the project team will be measured and evaluated
- project performance appraisals - include the procedures, methods, and guidelines for the performance appraisal of individual project team members
- recognition and rewards - details the approaches that will be taken for promoting and reinforcing desired behavior, including the costs associated with any recognition or reward program
- staff release criteria - describes how team members will be released from the project; how payment for work completed will be handled for the departing team member

One example of staffing plan:

Table 4. Staffing plan example

Role	Skills & Knowledge	From MM/YY	To MM/YY	% Req.	Comments
Project Manager	Experienced PM 5 yrs+	01/05	05/05	100%	IT Background preferred
Business Consultant	Requirements, modeling, logistics.	01/05	05/05	Declines 100% to 25%	Internal Resource preferred (no contract resource)
Developer	Java, Oracle	01/05	05/05	50% to 100%	
Tester	Test Management Tools	04/05	05/05	100% to 50%	
Production Support	Java, Oracle, Production Environment	04/05	05/05	100% to 25%	

One example of resource histogram:

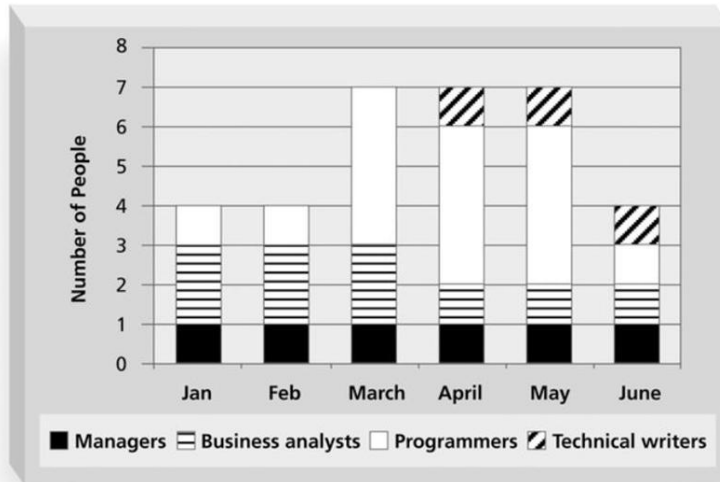


Figure 3. Resource histogram example

Limitations in supplying with personal

- project member location in main organization
- team members preferences for composition, role allocation and fulfillment
- dependence of personal skills and capabilities
- availability of resources
- team communication model conditioned by development methodology

Being project team member depends on:

- rules, on what projects in main organization are organized
- management structure in customer and performer organization
- project members subordination relationships in main organization

Organizational structure

Organizational structure is an enterprise environmental factor which can affect the availability of resources and influence how projects are conducted

Organizations can be:

Not projectized - nothing is done with projects

Projectized - project services are offered outside the company (development companies) or project services are offered inside the company (IT department)

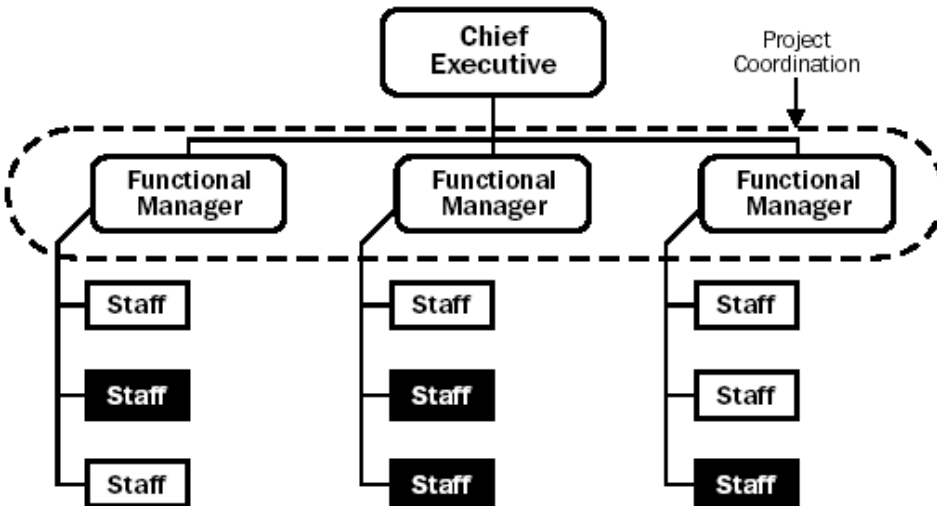
The result of bounding together main organization with project organization we can get functional, projectized, matrix or composed organization.

Functional organization

- each employee has one clear superior

- is based on departmental, specialty, or business lines, such as accounting, marketing, sales, customer service, information systems, and so on
- the scope of the project is usually limited to the boundaries of the function
- consultations are held by heads of different departments

Pictorially:



(Black boxes represent staff engaged in project activities.)

Figure 4. Functional organization

Projectized organization

- team members are often co-located
- most of the organization's resources are involved in project work
- project managers have a great deal of independence and authority
- projectized organizations often have organizational units called departments, but these groups either report directly to the project manager or provide support services to the various projects

Pictorially:

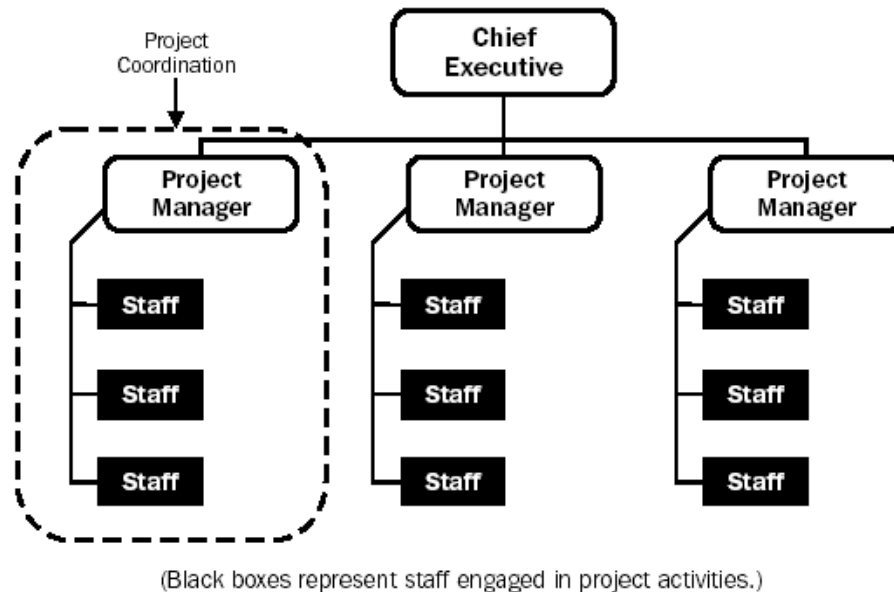


Figure 5. Projectized organization

Matrix organization

- a blend of functional and projectized characteristics
- Weak matrices maintain many of the characteristics of a functional organization, and the project manager role is more of a coordinator than that of a true project manager
- Strong matrices have many of the characteristics of the projectized organization, and can have full-time project managers with considerable authority and full-time project administrative staff
- Balanced matrix organization recognizes the need for a project manager, it does not provide the project manager with the full authority over the project and project funding

Weak matrix organization pictorially:

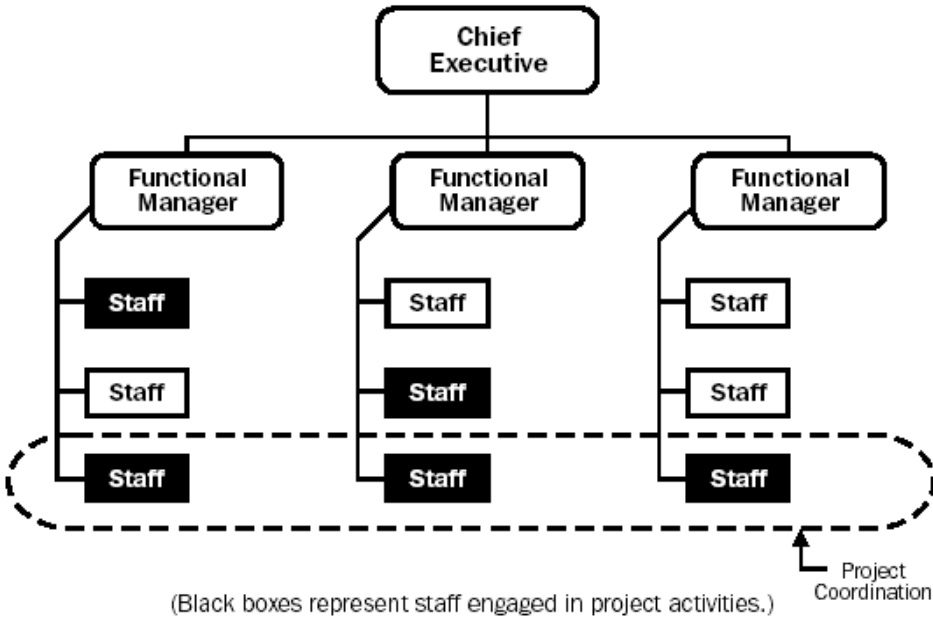


Figure 6. Weak matrix organization

Strong matrix organization pictorially:

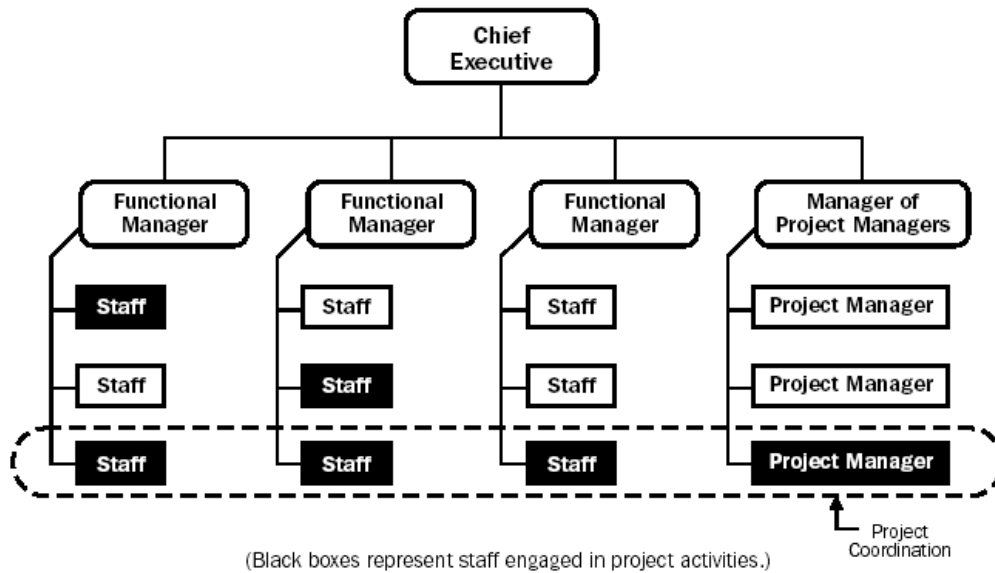


Figure 7. Strong matrix organization

Balanced matrix organization pictorially:

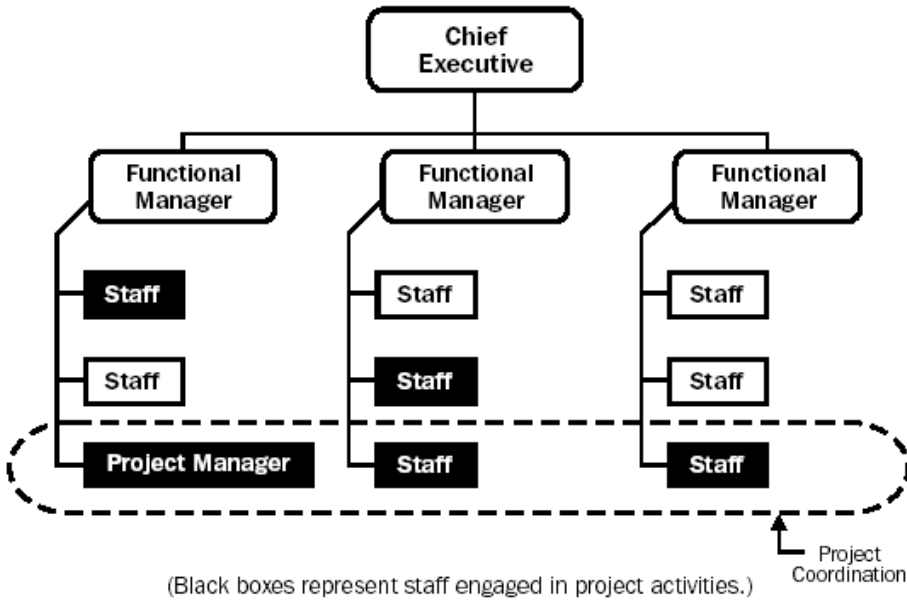


Figure 8. Balanced matrix organization

Composed organization

Composed organization involves all previously described structures at various levels, pictorially:

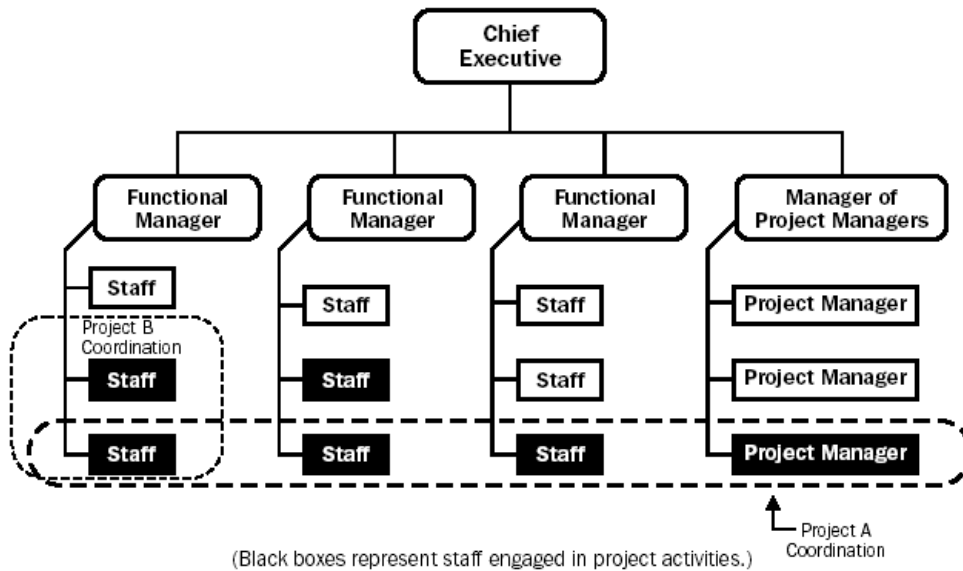


Figure 9. Composed organization

Project manager is determined

Pending on his/her position in organization

- by resource manager – superior of project manager
- by project sponsor – project initiator

- by project manager him-/herself

Following table shows key project-related characteristics of the major types of organizational structures:

Table 5. Organizational influences on projects

Project Characteristics	Organization Structure	Functional	Matrix			Projectized
			Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority		Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Percent of Performing Organization's Personnel Assigned Full Time to Project Work		Virtually None	0–25%	15–60%	50–95%	85–100%
Project Manager's Role		Part-time	Part-time	Full-time	Full-time	Full-time
Common Titles for Project Manager's Role		Project Coordinator/ Project Leader	Project Coordinator/ Project Leader	Project Manager/ Project Officer	Project Manager/ Program Manager	Project Manager/ Program Manager
Project Management Administrative Staff		Part-time	Part-time	Part-time	Full-time	Full-time

Organizational Structure Influences on Projects

Used Literature

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- Steven Bonacorsi, „RACI Diagram / RACI Matrix - A Complete Definition“, <http://www.pmhut.com/raci-diagram-raci-matrix-a-complete-definition>
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