Definition Reference

Project Definition is where the intent and structure of the project are established. The project statement is selected to provide direction for the project. Project objectives describe the value to be provided by the end result, and set measures for success. The work breakdown structure outlines what needs to be done to create the end result, and shows the relationship of component work packages. Resource requirements are defined and associated costs assembled to validate expectations.

State the Project

The project statement concisely describes the project's purpose. It should contain an action word (such as achieve, build, design, develop, install, launch, move, etc.), an end result, a target completion date, and an estimated or desired cost target. Use the process questions in the workshop materials to help you develop the project statement. Below are criteria for assessing project statements. (Criteria will be provided for each process step throughout this reference.)

Project Statement Criteria:

- ✔ Action word
- ✔ Performance (end result)
- ✔ Time
- ✔ Cost
- ✔ Concise

Develop Objectives

Project objectives are concise statements that reflect the results expected from the project, and constraints within which the project will be managed. In addition, objectives should include statements that document the value and short- and/or long-term benefits of the project to the organization, as well as any requirements that the project must meet.

Measures and standards that are either quantifiable or clearly understood should accompany each objective. After listing the project objectives, audit them to see whether they reflect the original concerns that prompted the organization to initiate the project. Use the process questions in the workshop materials to help you develop the project objectives. Use the criteria listed below to assess project objectives.

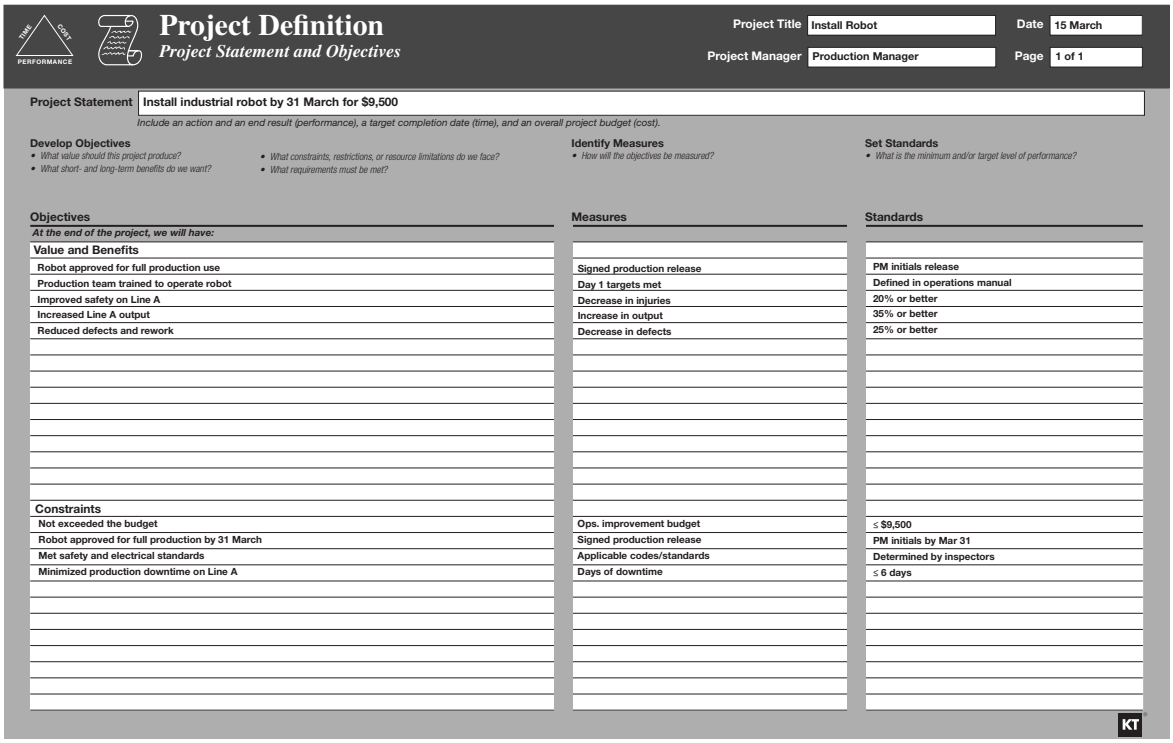
Project Objectives Criteria:

- ✔ Results
- ✔ Value
- ✔ Short- and/or long-term benefits
- ✔ Constraints
- ✔ Requirements to be met
- ✔ Short list of concise statements
- ✔ Reflect original concerns
- ✔ Measures/standards (quantifiable or clearly understood)

For example…

Project Statement and Objectives

Microsoft Project does not support a method for stating the project and developing objectives. Below is a Microsoft® Excel worksheet template for the sample project that shows the project statement and objectives. This file is included in Project Logic and has been linked to the summary task of the project using Microsoft Project's Insert Object feature. It can be referenced by anyone who opens the project plan file.



Project Definition
Project Statement and Objectives

Project Title: Install Robot | Date: 15 March
Project Manager: Production Manager | Page: 1 of 1

Project Statement: Install industrial robot by 31 March for $9,500

Include an action and an end result (performance), a target completion date (time), and an overall project budget (cost).

Develop Objectives
- *What value should this project produce?*
- *What short- and long-term benefits do we want?*
- *What constraints, restrictions, or resource limitations do we face?*
- *What requirements must be met?*

Identify Measures
- *How will the objectives be measured?*

Set Standards
- *What is the minimum and/or target level of performance?*

Objectives	Measures	Standards
At the end of the project, we will have:		
Value and Benefits		
Robot approved for full production use	Signed production release	PM initials release
Production team trained to operate robot	Day 1 targets met	Defined in operations manual
Improved safety on Line A	Decrease in injuries	20% or better
Increased Line A output	Increase in output	35% or better
Reduced defects and rework	Decrease in defects	25% or better
Constraints		
Not exceeded the budget	Ops. improvement budget	≤ $9,500
Robot approved for full production by 31 March	Signed production release	PM initials by Mar 31
Met safety and electrical standards	Applicable codes/standards	Determined by inspectors
Minimized production downtime on Line A	Days of downtime	≤ 6 days

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Develop Work Breakdown Structure

The work breakdown structure (WBS) is a tool for defining the project's work scope and establishing the hierarchy or structure of that work. A WBS can contain the following components: deliverables, sub-deliverables, and work packages. Deliverables are at the highest level of the hierarchy. Next come sub-deliverables. Work packages are at the lowest level of the hierarchy.

How you plan to manage the work will influence whether and how you further break down deliverables. Any deliverable, including one that is not broken down, can be treated as a subproject if the scope is significant to warrant such treatment, or if the work is better managed by someone other than the project manager.

Each WBS component should be described briefly in action-oriented terms to communicate what needs to be achieved (for example, "Electrical components installed"). Components of the WBS are often identified with numerical codes to aid in the organization, tracking, and linking of project accounts.

Each work package should contain performance specifications that describe the design, functional, and/or operational characteristics of the expected outcome. These specifications can be stored in a Work Breakdown Structure Dictionary (see page 36).

You can use either a chart or outline format to document the WBS. The following example is displayed in outline format. Microsoft Project does not support chart forms of work breakdown structures; however third-party software packages like WBS Chart can be imported into Microsoft Project.

Use the process questions in the workshop materials to help you develop a work breakdown structure. Use the criteria listed below to assess and improve it.

Work Breakdown Structure Criteria:

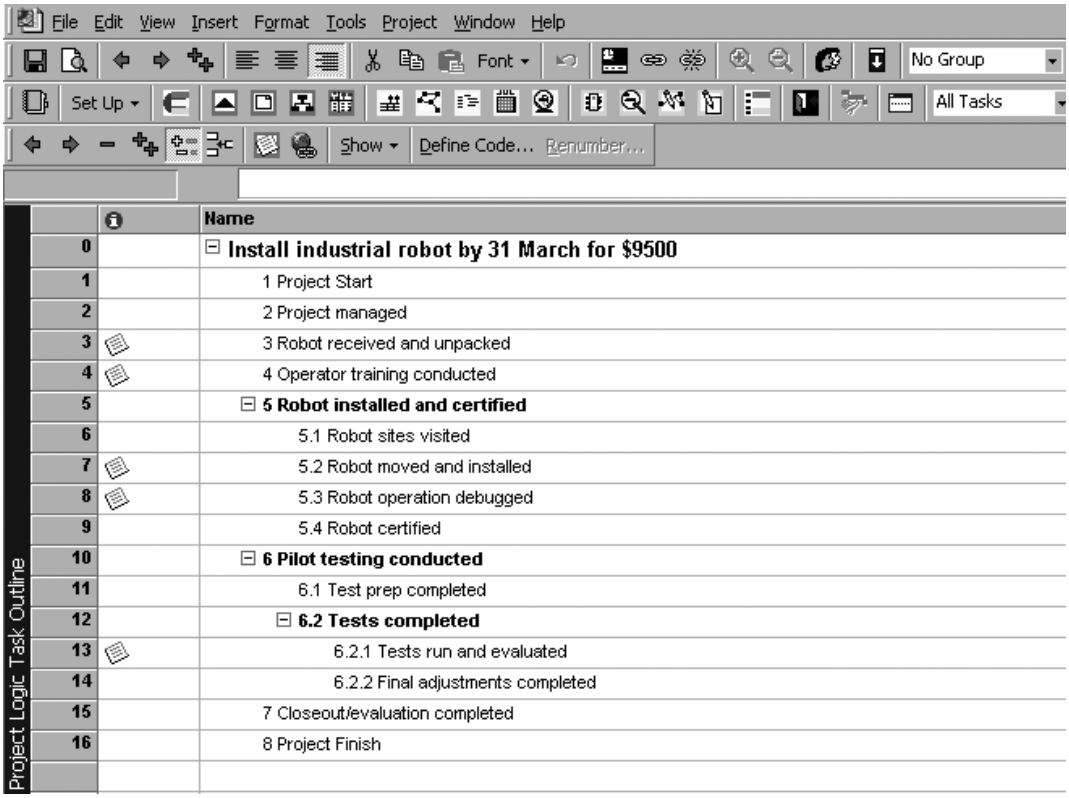
- ✔ Hierarchy
- ✔ Deliverables
- ✔ Sub-deliverables
- ✔ Work packages
- ✔ Numbers/codes
- ✔ Short statements
- ✔ Subprojects (as needed)
- ✔ Work supports the objectives
- ✔ Performance specifications for work packages
- ✔ Chart/outline format

For example…

Work Breakdown Structure (WBS)

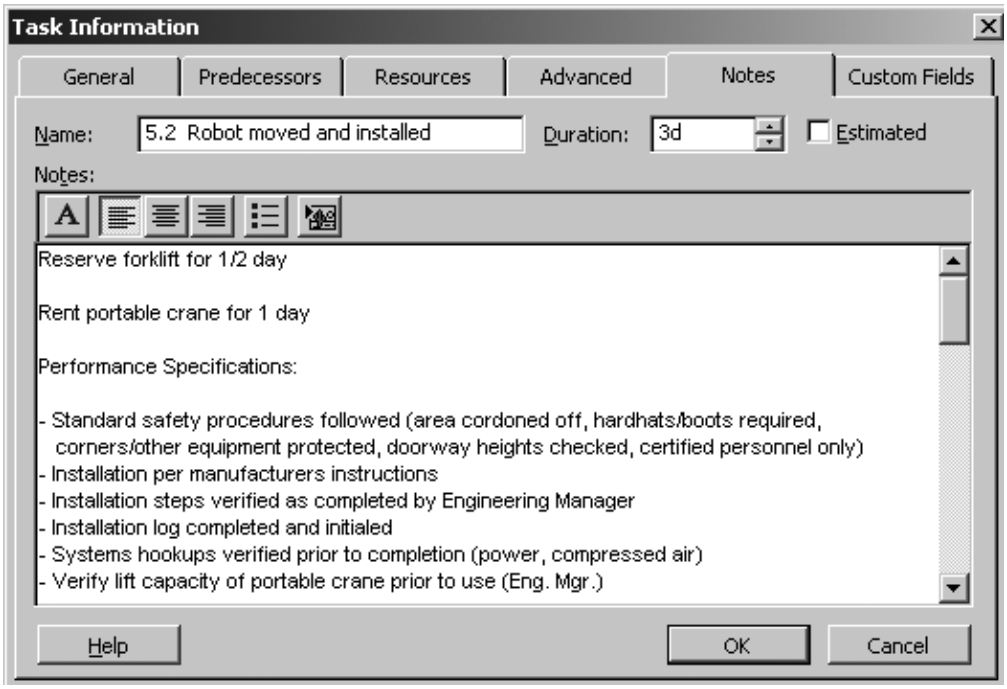
Microsoft Project has a robust set of work breakdown structure tools. Kepner-Tregoe's Project Logic helps to use those tools to their best advantage by formatting a view for input of WBS information, and by providing a toolbar to aid in the organization of project work.

Users can easily indent, outdent, and insert tasks. They can add notes and link to other tasks. They can show specific levels of the work breakdown structure, and they can code it to link with specific project accounts (if desired).



For example…

Performance specifications can be captured in task notes, in resource notes, or in assignment notes (or as a separate document, which is then embedded). Which one is chosen is less important than being able to capture the specifications and communicate them effectively. In the example below, information about performance specifications for a particular work package has been listed in the Notes field of the Task Information dialog box.



WBS Dictionary

The WBS dictionary can serve as a repository for specific information about work packages. It should contain a list of all work packages. Information on timing, budget, performance specifications, agreements, tasks, constraints, potential problems and opportunities, and changes to work packages can be stored here. Use the criteria listed below to assess the content and impact of the WBS dictionary.

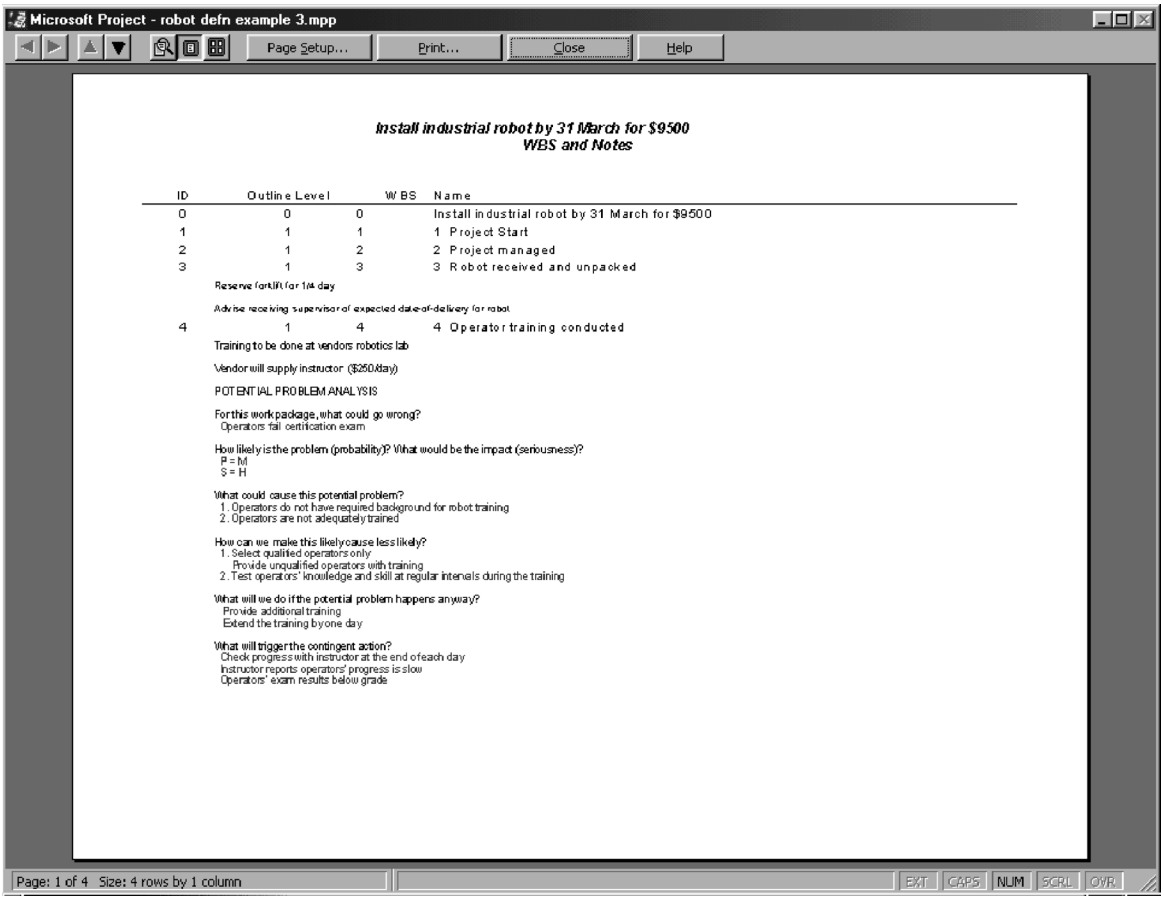
Work Breakdown Structure Dictionary Criteria:

- ✔ Deliverables
- ✔ Timing
- ✔ Constraints
- ✔ Agreements
- ✔ Standards, measures,
- ✔ Budget
- ✔ Assumptions
- ✔ Associated tasks/activities
- ✔ Potential problems/opportunities
- ✔ Changes performance specifications

For example…

WBS Dictionary

Although Microsoft Project has no specific WBS dictionary report, it offers a wide variety of options for displaying information in report form. Almost any information that is either calculated by Microsoft Project based on data you entered about tasks and resources, or captured as text in notes fields, can be configured to make up a dictionary report. Use the criteria listed and your understanding of what needs to be communicated to select from the standard Microsoft Project reports, custom Project Logic reports, or to customize your own reporting.



Identify Resource Requirements

The resources needed to complete most projects include human resources, facilities, equipment, materials/ supplies, and special requirements (natural resources, scarce resources, unique skills, unusual energy resources, etc.).

A Resource Requirements Matrix is a tool to help you identify and quantify the resources required for your project. For each work package, identify the type, quantity, and cost of each resource. Use the process questions in the workshop materials to help you identify the resource requirements. Use the criteria listed below to develop the matrix.

Resource Requirements Criteria:

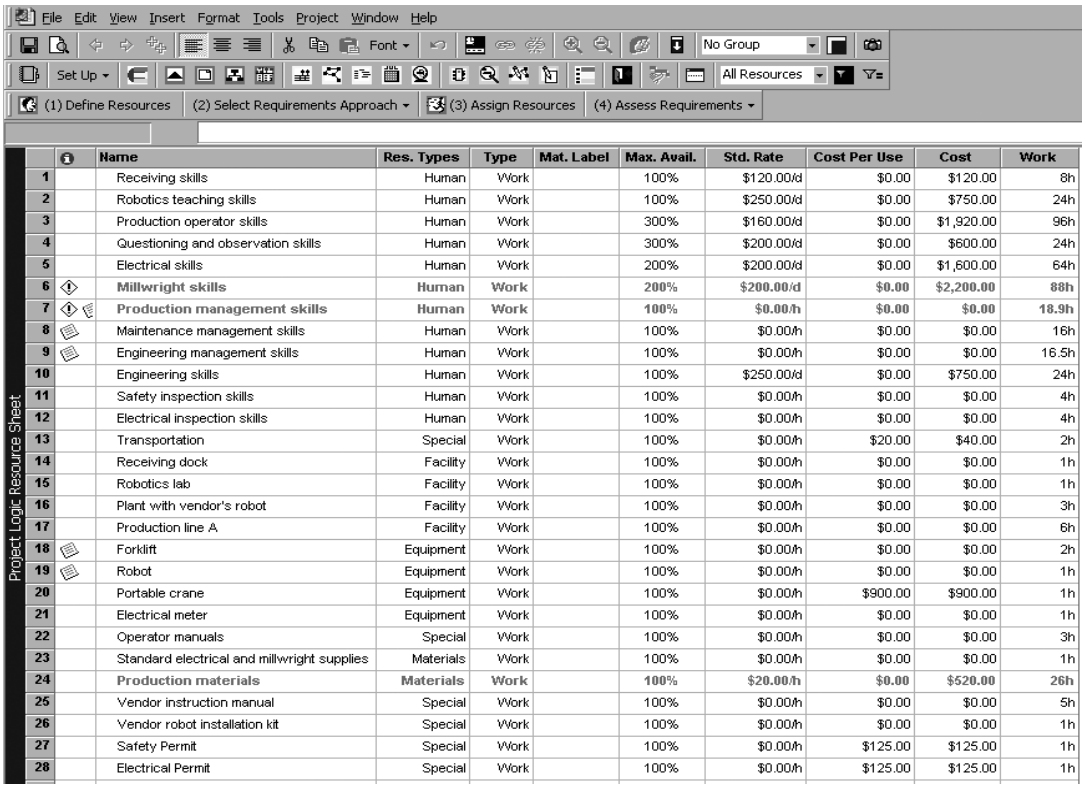
- ✔ List of work packages/codes
- ✔ Knowledge, skills, expertise, information
- ✔ Facilities
- ✔ Equipment
- ✔ Supplies, material
- ✔ Special or unusual resources
- ✔ Type (name)
- ✔ Amount (maximum available, work required to complete task)
- ✔ Cost (standard rate)

For example…

Resource Requirements

Microsoft Project has a wide variety of tools to use in defining and assigning resources. Kepner-Tregoe's Project Logic organizes these tools into a process, and makes the best use of them by formatting views and providing a special toolbar.

The toolbar breaks the process into four parts. The first, **Define Resources**, is familiar to most Microsoft Project users. In this view, resources (both labor/work and materials) are named, and their type, availability and associated costs are determined. Project Logic adds features to help in identifying resources in the categories outlined above (human, facilities, equipment, materials/ supplies, and special requirements).



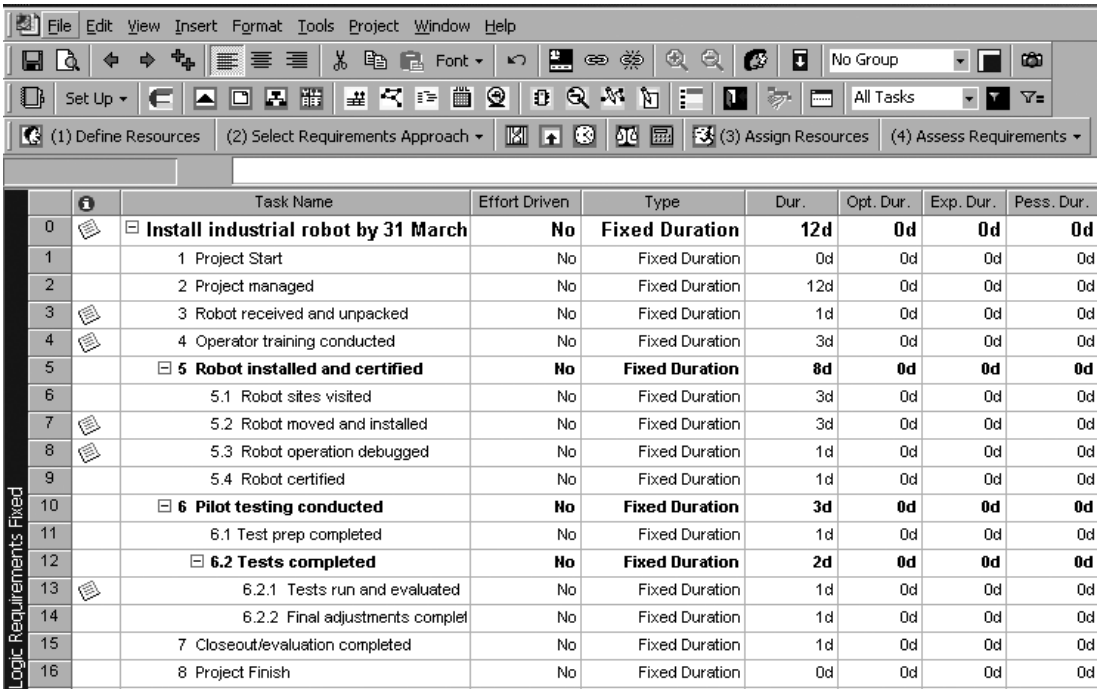
	Name	Res. Types	Type	Mat. Label	Max. Avail.	Std. Rate	Cost Per Use	Cost	Work
1	Receiving skills	Human	Work		100%	$120.00/d	$0.00	$120.00	8h
2	Robotics teaching skills	Human	Work		100%	$250.00/d	$0.00	$750.00	24h
3	Production operator skills	Human	Work		300%	$160.00/d	$0.00	$1,920.00	96h
4	Questioning and observation skills	Human	Work		300%	$200.00/d	$0.00	$600.00	24h
5	Electrical skills	Human	Work		200%	$200.00/d	$0.00	$1,600.00	64h
6	**Millwright skills**	**Human**	**Work**		**200%**	**$200.00/d**	**$0.00**	**$2,200.00**	**88h**
7	**Production management skills**	**Human**	**Work**		**100%**	**$0.00/h**	**$0.00**	**$0.00**	**18.9h**
8	Maintenance management skills	Human	Work		100%	$0.00/h	$0.00	$0.00	16h
9	Engineering management skills	Human	Work		100%	$0.00/h	$0.00	$0.00	16.5h
10	Engineering skills	Human	Work		100%	$250.00/d	$0.00	$750.00	24h
11	Safety inspection skills	Human	Work		100%	$0.00/h	$0.00	$0.00	4h
12	Electrical inspection skills	Human	Work		100%	$0.00/h	$0.00	$0.00	4h
13	Transportation	Special	Work		100%	$0.00/h	$20.00	$40.00	2h
14	Receiving dock	Facility	Work		100%	$0.00/h	$0.00	$0.00	1h
15	Robotics lab	Facility	Work		100%	$0.00/h	$0.00	$0.00	1h
16	Plant with vendor's robot	Facility	Work		100%	$0.00/h	$0.00	$0.00	3h
17	Production line A	Facility	Work		100%	$0.00/h	$0.00	$0.00	6h
18	Forklift	Equipment	Work		100%	$0.00/h	$0.00	$0.00	2h
19	Robot	Equipment	Work		100%	$0.00/h	$0.00	$0.00	1h
20	Portable crane	Equipment	Work		100%	$0.00/h	$900.00	$900.00	1h
21	Electrical meter	Equipment	Work		100%	$0.00/h	$0.00	$0.00	1h
22	Operator manuals	Special	Work		100%	$0.00/h	$0.00	$0.00	3h
23	Standard electrical and millwright supplies	Materials	Work		100%	$0.00/h	$0.00	$0.00	1h
24	**Production materials**	**Materials**	**Work**		**100%**	**$20.00/h**	**$0.00**	**$520.00**	**26h**
25	Vendor instruction manual	Special	Work		100%	$0.00/h	$0.00	$0.00	5h
26	Vendor robot installation kit	Special	Work		100%	$0.00/h	$0.00	$0.00	1h
27	Safety Permit	Special	Work		100%	$0.00/h	$125.00	$125.00	1h
28	Electrical Permit	Special	Work		100%	$0.00/h	$125.00	$125.00	1h

For example…

While Kepner-Tregoe's project management process encourages thinking about the type, amount, and cost of each resource needed to complete a work package at the same time, Microsoft Project gathers and processes this information differently, but with the same end result. For example, the amount of a resource (either hours or units) and its cost is calculated at the same time in Kepner-Tregoe's process. Microsoft Project asks for the unit costs when identifying resources, then multiplies that by the availability of the resource and the duration of the task (entered at different times) to calculate the total resource cost for a task. This requires the user to understand where the information resides and how to get to it, without being able to see it all in one place. Once the user becomes acquainted with this, it ceases to cause confusion.

Some users prefer to link key data to external sources so that, when the data change at that external location, they automatically change in the project plan. An example of this would be linking a spreadsheet with exchange rates and labor rates to a shared resource sheet for projects that utilize international contractors. Changing the exchange rates recalculates the labor rates, which automatically change the information in all of the linked projects.

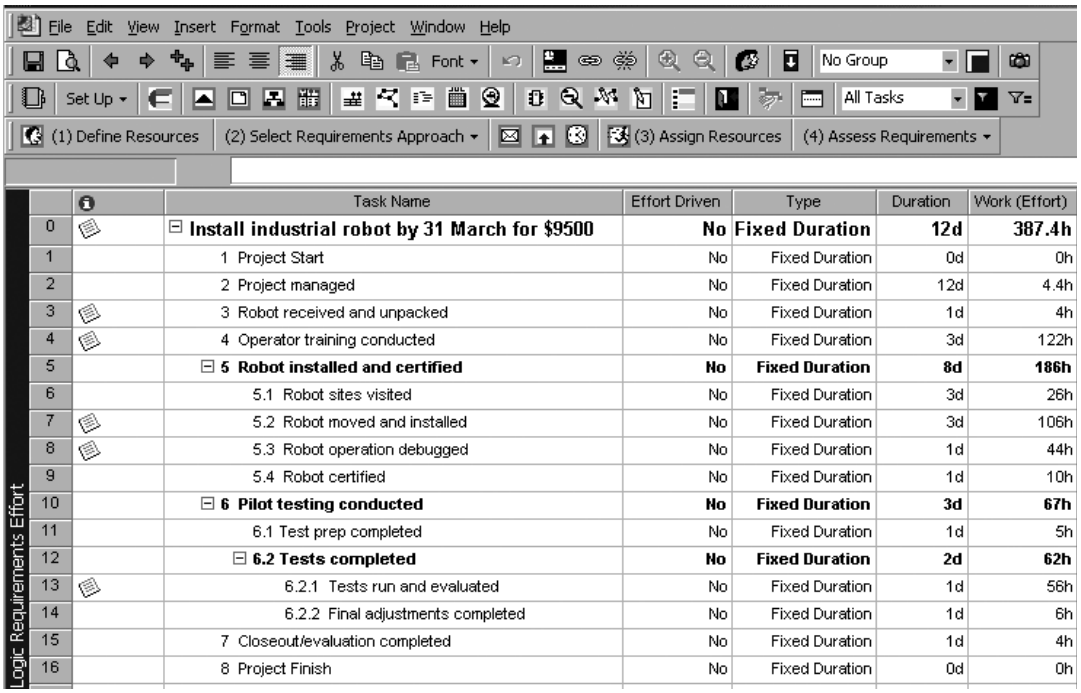
The second step, **Select Requirements Approach**, is to understand whether tasks in the project are fixed-duration (meaning duration is predetermined and will not change even if work or resources change), or effort-driven (meaning that duration will change as work and resources change). This distinction is important since Microsoft Project calculates initial estimates and monitoring data differently for each, based on resource assignments, duration, and work. If you do not select the appropriate task type, you may see confusing or incorrect data. Project Logic configures a view to enable the user to select task types and enter duration information. The fixed-duration view includes columns and functionality for entering PERT estimates.



		Task Name	Effort Driven	Type	Dur.	Opt. Dur.	Exp. Dur.	Pess. Dur.
0		**Install industrial robot by 31 March**	**No**	**Fixed Duration**	**12d**	**0d**	**0d**	**0d**
1		1 Project Start	No	Fixed Duration	0d	0d	0d	0d
2		2 Project managed	No	Fixed Duration	12d	0d	0d	0d
3		3 Robot received and unpacked	No	Fixed Duration	1d	0d	0d	0d
4		4 Operator training conducted	No	Fixed Duration	3d	0d	0d	0d
5		**5 Robot installed and certified**	**No**	**Fixed Duration**	**8d**	**0d**	**0d**	**0d**
6		5.1 Robot sites visited	No	Fixed Duration	3d	0d	0d	0d
7		5.2 Robot moved and installed	No	Fixed Duration	3d	0d	0d	0d
8		5.3 Robot operation debugged	No	Fixed Duration	1d	0d	0d	0d
9		5.4 Robot certified	No	Fixed Duration	1d	0d	0d	0d
10		**6 Pilot testing conducted**	**No**	**Fixed Duration**	**3d**	**0d**	**0d**	**0d**
11		6.1 Test prep completed	No	Fixed Duration	1d	0d	0d	0d
12		**6.2 Tests completed**	**No**	**Fixed Duration**	**2d**	**0d**	**0d**	**0d**
13		6.2.1 Tests run and evaluated	No	Fixed Duration	1d	0d	0d	0d
14		6.2.2 Final adjustments complet	No	Fixed Duration	1d	0d	0d	0d
15		7 Closeout/evaluation completed	No	Fixed Duration	1d	0d	0d	0d
16		8 Project Finish	No	Fixed Duration	0d	0d	0d	0d

For example…

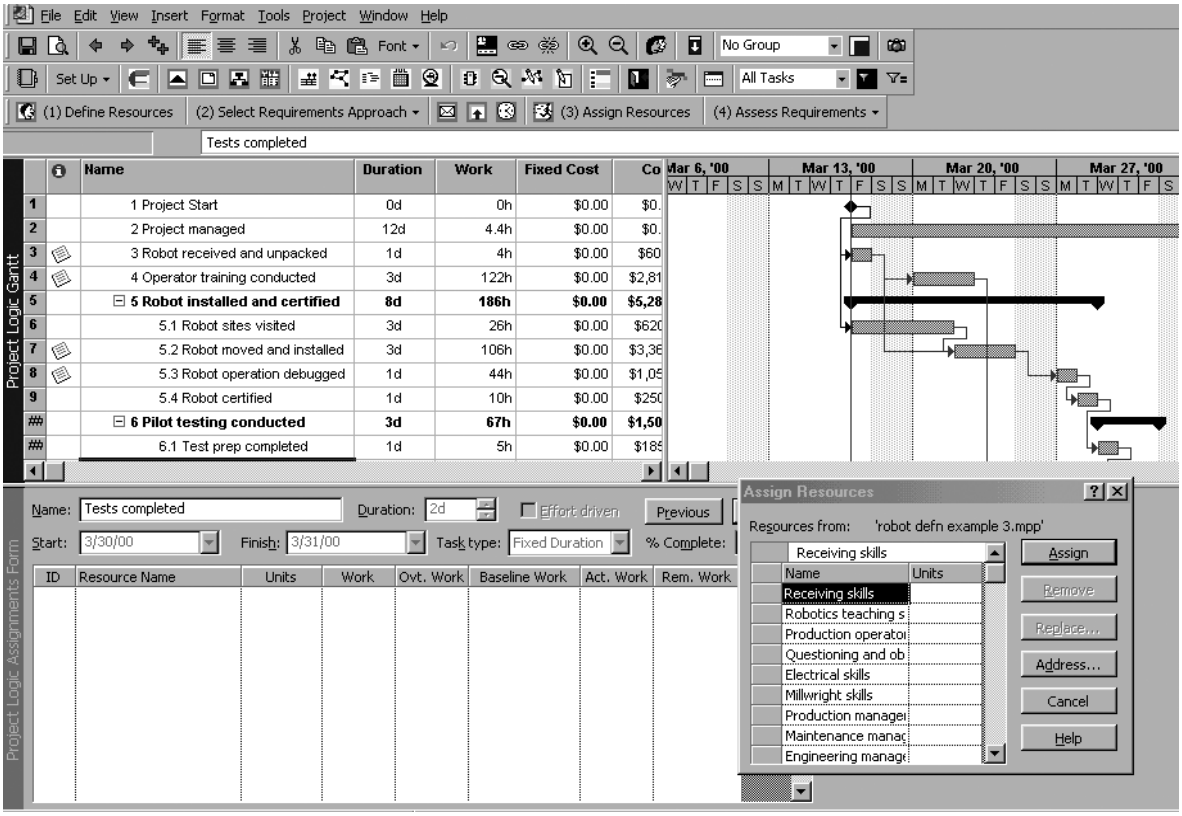
The effort-driven view includes a column that shows the total work for each task. (There are no effort-driven tasks in this project.)



		Task Name	Effort Driven	Type	Duration	Work (Effort)
0		**Install industrial robot by 31 March for $9500**	**No**	**Fixed Duration**	**12d**	**387.4h**
1		1 Project Start	No	Fixed Duration	0d	0h
2		2 Project managed	No	Fixed Duration	12d	4.4h
3		3 Robot received and unpacked	No	Fixed Duration	1d	4h
4		4 Operator training conducted	No	Fixed Duration	3d	122h
5		**5 Robot installed and certified**	**No**	**Fixed Duration**	**8d**	**186h**
6		5.1 Robot sites visited	No	Fixed Duration	3d	26h
7		5.2 Robot moved and installed	No	Fixed Duration	3d	106h
8		5.3 Robot operation debugged	No	Fixed Duration	1d	44h
9		5.4 Robot certified	No	Fixed Duration	1d	10h
10		**6 Pilot testing conducted**	**No**	**Fixed Duration**	**3d**	**67h**
11		6.1 Test prep completed	No	Fixed Duration	1d	5h
12		**6.2 Tests completed**	**No**	**Fixed Duration**	**2d**	**62h**
13		6.2.1 Tests run and evaluated	No	Fixed Duration	1d	56h
14		6.2.2 Final adjustments completed	No	Fixed Duration	1d	6h
15		7 Closeout/evaluation completed	No	Fixed Duration	1d	4h
16		8 Project Finish	No	Fixed Duration	0d	0h

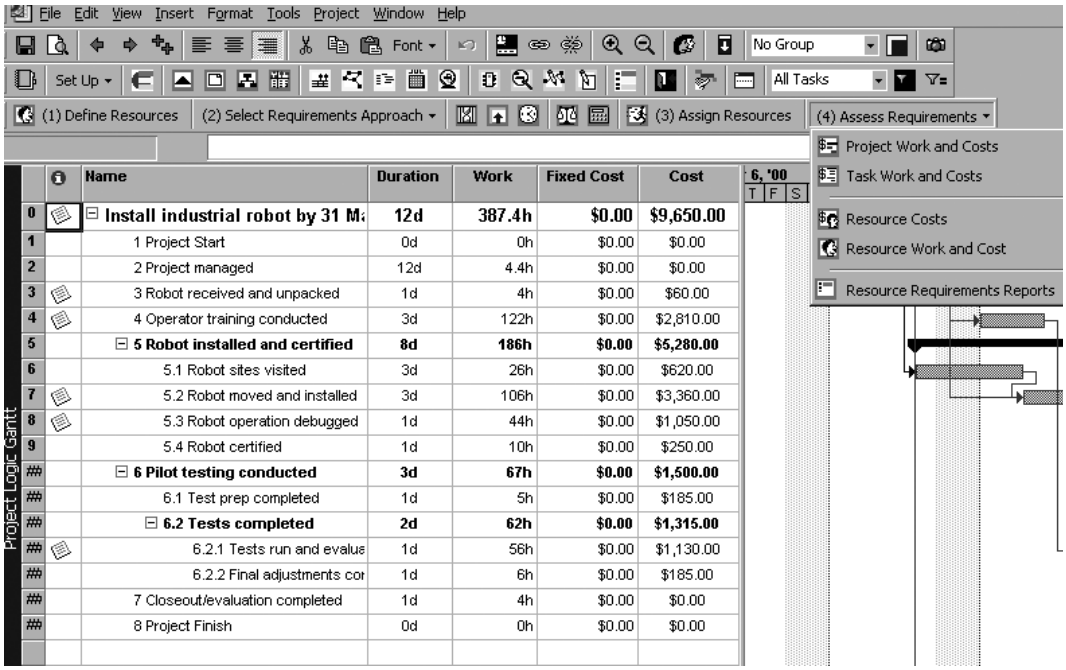
For example…

The third step is to **Assign Resources** to each task. Project Logic provides a split window with a Gantt view on top and a resource assignment view on the bottom, with the resource assignment dialog box to the side. This enables the user to simultaneously make assignments, adjust them as required, and see the implications of any changes.



For example…

The fourth and final step is to **Assess Requirements** in terms of the cost of tasks, resources, and the overall project. If any of these do not meet expectations, you may wish to go back and revise estimates, or negotiate changes with project stakeholders. Project Logic provides a number of views for examining these costs.



	Name	Duration	Work	Fixed Cost	Cost
0	**Install industrial robot by 31 M**	**12d**	**387.4h**	**$0.00**	**$9,650.00**
1	1 Project Start	0d	0h	$0.00	$0.00
2	2 Project managed	12d	4.4h	$0.00	$0.00
3	3 Robot received and unpacked	1d	4h	$0.00	$60.00
4	4 Operator training conducted	3d	122h	$0.00	$2,810.00
5	**5 Robot installed and certified**	**8d**	**186h**	**$0.00**	**$5,280.00**
6	5.1 Robot sites visited	3d	26h	$0.00	$620.00
7	5.2 Robot moved and installed	3d	106h	$0.00	$3,360.00
8	5.3 Robot operation debugged	1d	44h	$0.00	$1,050.00
9	5.4 Robot certified	1d	10h	$0.00	$250.00
##	**6 Pilot testing conducted**	**3d**	**67h**	**$0.00**	**$1,500.00**
##	6.1 Test prep completed	1d	5h	$0.00	$185.00
##	**6.2 Tests completed**	**2d**	**62h**	**$0.00**	**$1,315.00**
##	6.2.1 Tests run and evalua	1d	56h	$0.00	$1,130.00
##	6.2.2 Final adjustments cor	1d	6h	$0.00	$185.00
##	7 Closeout/evaluation completed	1d	4h	$0.00	$0.00
##	8 Project Finish	0d	0h	$0.00	$0.00

For example…

Below is a Microsoft Excel worksheet showing the resource requirements for the entire project.

Project Definition

Resource Requirements

Project Statement | **Install industrial robot by 31 March for $9,500**

Identify Resource Requirements

- *What knowledge and skills are needed?*
- *What facilities are needed?*
- *What equipment is required?*
- *What supplies or materials will be used?*
- *What special or unusual resources are needed?*

WBS Code	Knowledge/Skills Type	Amt	Unit Cost	Total Cost	Facilities Type	Amt	Unit Cost	Total Cost	Equipment Type	Amt	Unit Cost	Total Cost
2 Project managed	Project management	1 x 1 hr x 12 days = 12 hours	$0*	$0*								
3 Robot received and unpacked	Receiving skills	1 x 1/2 day = 4 hrs	$15/hr	$60	Receiving dock		N/C	$0	Forklift	1/4 day = 2 hrs		$0
4 Operator training conducted	Robotics teaching skills	1 x 3 days = 24 hrs	$31.25/hr	$750	Robotics lab	3 x 1 day = 24 hrs	Incl.	$0	Robot	3 x 1 day = 24 hrs	Incl.	$0
	Production operator skills	3 x 3 days = 72 hrs	$20/hr	$1,440								
	Transportation			$20								
	Millwright skills	1 x 3 days = 24 hrs	$25/hr	$600								
	Management skills	1 x 1/4 day = 2 hrs	$0*	$0*								
5 Robot installed and certified												
5.1 Robot sites visited	Questioning, observation skills	3 x 1 day = 24 hrs	$25/hr	$600	Plants with vendor's robots	3	N/C	$0				
	Transportation			$20								
	Management skills	1 x 1/4 day = 2 hrs	$0*	$0*								
5.2 Robot moved and installed	Electrical skills	2 x 3 days = 48 hrs	$25/hr	$1,200	Production line A		N/C	$0	Forklift	1/2 day = 4 hrs		
	Millwright skills	2 x 3 days = 48 hrs	$25/hr	$1,200					Portable crane	1 day = 8 hrs	$900/day	$900
	Receiving skills	1 x 1/2 day = 4 hrs	$15/hr	$60								
	Management skills	1 x 2 hrs x 3 days = 6 hrs	$0*	$0*								
5.3 Robot operation debugged	Electrical skills	2 x 1 day = 16 hrs	$25/hr	$400	Production line A		N/C	$0	Electrical meters	2		$0
	Millwright skills	2 x 1 day = 16 hrs	$25/hr	$400								
	Engineering skills	1 x 1 day = 8 hrs	$31.25/hr	$250								
	Management skills	1 x 1/2 day = 4 hrs	$0*	$0*								
5.4 Robot certified	Electrical inspection skills	1 x 1/2 day = 4 hrs	N/C	$0	Production line A		N/C	$0				
	Safety inspection skills	1 x 1/2 day = 4 hrs	N/C	$0								
	Management skills	1 x 1/4 day = 2 hrs	$0*	$0*								
6 Pilot testing conducted												
6.1 Test preparation completed	Engineering skills	1 x 1/2 day = 4 hrs	$31.25/hr	$125	Production line A		N/C	$0				
	Management skills	1 x 1/8 day = 1 hr	$0*	$0*								
6.2 Tests completed												
6.2.1 Tests run and evaluated	Production operator skills	3 x 1 day = 24 hrs	$20/hr	$480	Production line A		N/C	$0				
	Engineering skills	1 x 1 day = 8 hrs	$31.25/hr	$250								
	Management skills	3 x 1 day = 24 hrs	$0*	$0*								
6.2.2 Final adjustments completed	Engineering skills	1 x 1/2 day = 4 hrs	$31.25/hr	$125	Production line A		N/C	$0				
	Management skills	1 x 1/4 day = 2 hrs	$0*	$0*								
7 Closeout/evaluation completed	Management skills	2 x 1 hr = 2 hrs	$0*	$0*			N/C	$0				
				$7,980				$0				$900

* Management time treated as overhead and not billed to project.

Project Title	Install Robot	Date	15 March
Project Manager	Production Manager	Page	1

Materials				Special Resources				Total ($)	Notes
Type	Amt	Unit Cost	Total Cost	Type	Amt	Unit Cost	Total Cost		
								$0	
								$60	Advise receiving of arrival date
Operator manuals	3	Incl.	$0	Instructor		Incl.	$0	$750 $1,440 $20 $600	Training at vendor's lab Vendor supplies instructor
								$600 $20	Engineering resource to visit sites 1/day, 3 sites total
Standard electrical and millwright supplies			$0	Vendor instruction manual Vendor robot installation kit		Incl. Incl.	$0 $0	$1,200 $2,100 $60	
				Vendor instruction manual				$400 $400 $250	Reserve forklift
				Electrical inspector Safety inspector Permit	1 1 2	$125/ea	$250	$250	
Production materials	3	$20	$60	Vendor instruction manual		Incl.	$0	$185	
Production materials	20	$20	$400	Vendor instruction manual		Incl.	$0	$880 $250	
Production materials	3	$20	$60	Vendor instruction manual		Incl.	$0	$185	
								$0	
			$520				$250	$9,650	
								$9,650	

Project Manager Selection

A project needs someone to be responsible for coordinating project efforts and tracking progress, to lead problem-solving and decision-making efforts, and to be accountable for the overall result. That person is the project manager.

The process of selecting the project manager can be informal or formal. It can be made by one individual or a group, selecting from a small or large pool of candidates. Often the choice is made prior to initiation of a project. However, it should certainly be made before the end of Project Definition to ensure appropriate guidance during Project Planning.

For example…

Project Manager Selection

Microsoft Project does not support a method for selecting a project manager. However, Project Logic offers a Decision Analysis Excel worksheet to support making a choice. Decision Analysis is a systematic approach for making choices. This approach includes selecting criteria for the decision, identifying and judging the performance of an alternative, and assessing risks associated with alternatives.

Decision Analysis

Clarify Purpose

State the decision — What is the purpose of this decision? What is the appropriate decision level? Include a choice word, a result, and 1 or 2 key modifiers.

State the decision: Select Project Manager for Robot Installation Project

Develop objectives	Classify objectives
What results do we want? What resources should we use or save? What restrictions do we have? What objectives need to be more specific?	If the objective is mandatory, measurable, and realistic, label it a MUST. **Weigh the WANTs** For the other objectives, what is the relative importance of each WANT?
Objectives	
Has time to manage the project	M
Good people skills (listening, feedback, coaching)	10
Technically savvy (knows what's involved in installing a robot)	9
Committed to project success	8
Good leadership skills (decisive, delegation, involvement)	7
Good process skills (critical thinking, questioning, listening)	6
Has operations team support	6
Has managed projects successfully before (on-time, on-budget, quality performance)	5

Use the criteria listed below and information in the workshop materials to identify and select a project manager.

Project Manager Selection Criteria

- ✔ Technical skills
- ✔ Content expertise
- ✔ Committed to project success
- ✔ Management support
- ✔ People skills
- ✔ Good relationship with people
- ✔ Time to devote to the project

The process for linking a worksheet like the one described above (or any other document containing information about selection of the project manager) is the same as described previously for Project Statement or Project Objectives documents.

Evaluate Alternatives

Generate alternatives

What choices do we have?

Screen through MUSTs/Compare against WANTs

How does this alternative satisfy this objective?

Performance: MUST — Eliminate any alternatives that do not meet all MUST objectives. (Label them NO GO.)

WANT — Rate the performance of each alternative against the WANT objectives. Record information on performance.

	Production Manager			Maintenance Manager			Engineering Manager			Plant Manager	
Performance		Score	Performance		Score	Performance		Score	Performance		Score
Go	Will make it top priority		Go	Understands it's a priority for the company		Go	Will make time for it		No Go	Out of the country during project timeframe	
6	Respected by peers, but subordinates feel input is not fully considered	60	10	Respected by peers and subordinates	100	5	Liked by peers and subordinates, but seen as a perfectionist	50			0
7	Familiar with robot installations	63	6	Can acquire the knowledge	54	10	Involved in previous robot installation	90			0
10	Sees value of improving output, improving safety	80	5	Sees benefits, but feels this is one more piece of equipment to maintain	40	5	Sees value, but this is one of many projects for his department	40			0
10	Good track record, able to influence and motivate well	70	8	Good resume, but new to the company, no track record.	56	6	Gets so involved in the details that project goals get overlooked	42			0
8	Skills displayed on many projects	48	7	Skills displayed only on maintenance projects	42	10	Has a good track record as critical thinker	60			0
5	Member of team, but often sides with majority rather than argue	30	7	Member of team, but has clashed with other members recently	42	10	Member of team, and is seen as consensus builder	60			0
5	Projects have sometimes run over budget	25	10	Reputation for meeting time, cost and performance goals in past	50	6	Reputation for over-engineering	30			0
		376			384			372			0

For example…

Project Manager Selection (cont.)

Decision Analysis

Assess Risks

Identify adverse consequences

What are the implications of being close to a MUST limit?
Where might information about this alternative be invalid? What are the implications?
What could go wrong, short and long term, if this alternative were chosen?

Assess the threat

How likely is each adverse consequence? (probability)
What impact will this adverse consequence have? (seriousness)

Highest Performing Alternative

	Production Manager	Probability	Seriousness
If	Management insists that he meet for budget planning sessions during the project time frame	L	
Then	PM may not have enough time to plan and manage the project		M
If	PM does not monitor time on the project carefully	L	
Then	planned production targets on line 1 will be affected		M
If			
Then			
If			
Then			
If			
Then			

Second Highest Performing Alternative

	Maintenance Manager	Probability	Seriousness
If	MM cannot get "smart" about robot installations quickly	H	
Then	MM may not be able to plan and manage the project effectively		H
If	There are maintenance emergencies anywhere in the company	M	
Then	MM will not be able to give this project his full attention		H
If			
Then			
If			
Then			
If			
Then			

Make Decision

Make the best balanced choice

Examine the risks and benefits. Mark your best choice.

X	