
Continuous Improvement Toolkit

Prioritization Matrix



The Continuous Improvement Map



Prioritization Matrix

Many real-life **decision-making situations** have several conflicting criteria that need to be considered at the same time



Traditionally, this is often carried out by applying **trial-and-error methods**, or by relying on the experience of people

Prioritization Matrix

In such situations, decision makers are required to use **prioritization** in order to make effective decisions



Prioritization is an essential **skill** that needs to be mastered by professionals to make the best use of their own and their team's time and effort

Prioritization Matrix

A **decision-making method** that allows to select the most appropriate alternative after evaluating multiple conflicting criteria as part of the decision-making process



Prioritization Matrix

The process of **determining the best feasible option** according to predefined criteria

OPTIONS



Helps **selecting** items to be actioned from a list of possible alternatives

Prioritization Matrix

Provides a way to **prioritize** a list of items into an order of importance for decision making



This prioritization provides a foundation for sorting and selecting the items, and help in the overall evaluation

Prioritization Matrix

Widely used in the **multi-criteria decision analysis (MCDA)** and other decision-making methodologies



Prioritization Matrix

Applications

Project
selection

System and software
selection

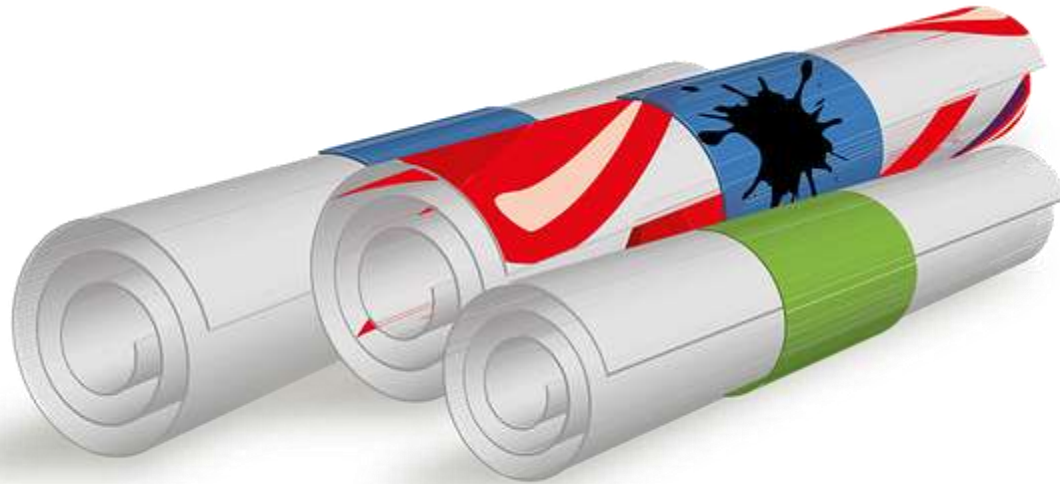
Personnel
selection

Material and supplier
selection

Equipment and machine
selection

Prioritization Matrix

Used in **project management** to select the potential projects that need to be initiated

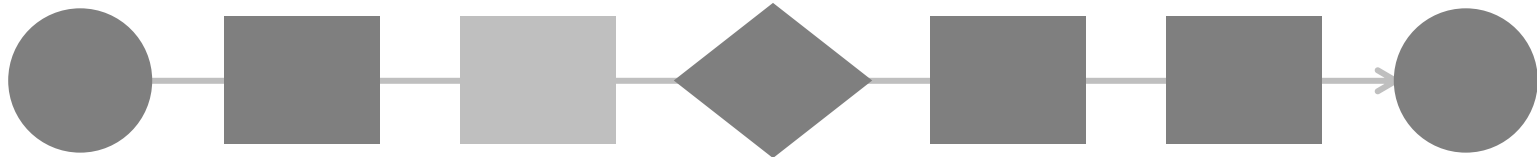


Prioritization Matrix

Used in **problems solving** and **process improvement** to . . .

Select the problem that needs to be resolve
Before initiation

Then, select the solution that needs to be implemented
After analysis



Prioritization Matrix

Benefits

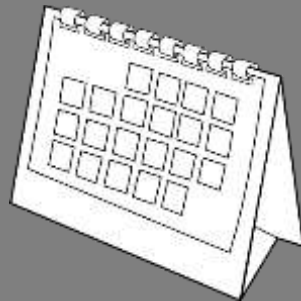
Helps make more informed and justifiable decisions.



Helps reduce options to the most effective and least costly.



Helps make use of time and resources to focus on the things that really matter.



Allows the team to agree on priorities and move toward the action collectively.

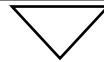


Prioritization Matrix

Prioritization Matrix Components

1

Problem / objective



2

Decision makers and their preferences



3

Alternatives / options



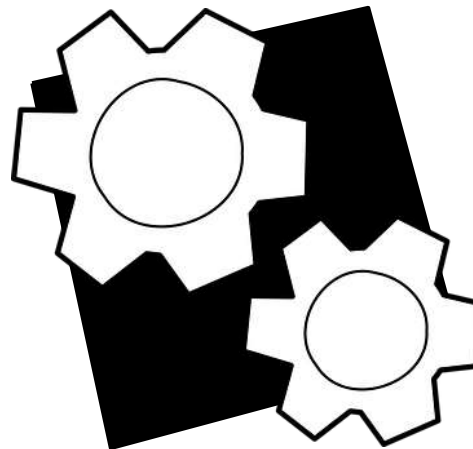
4

Evaluation criteria

Prioritization Matrix

Evaluation Criteria

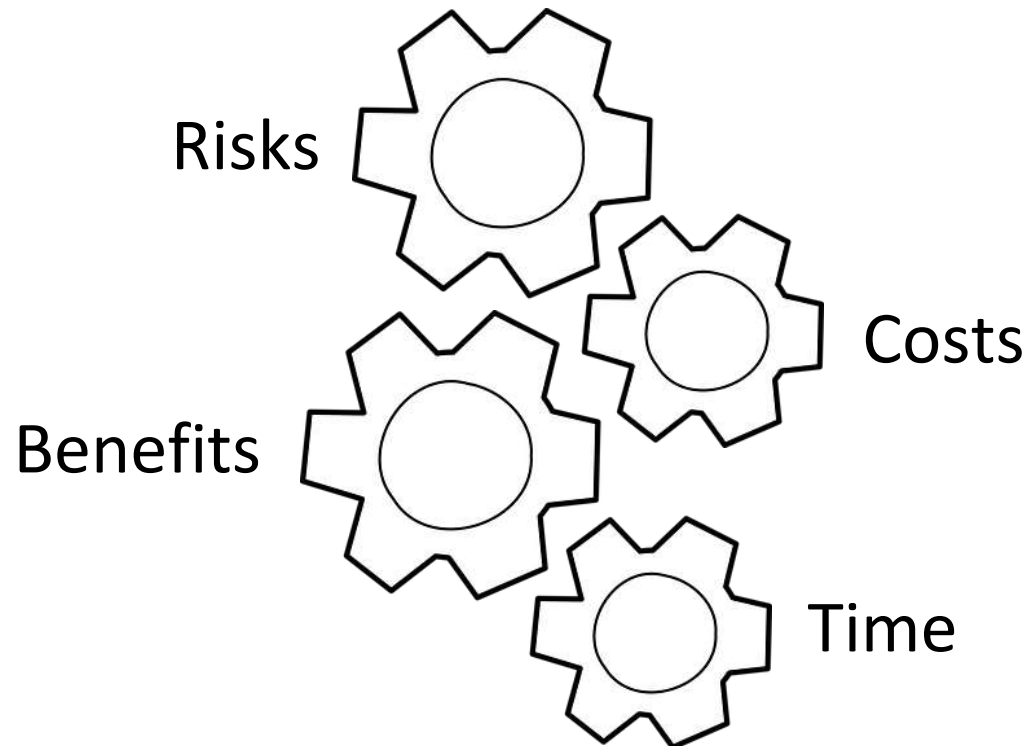
Represent defined **standards** by which the different alternatives can be measured and compared



Provide an objective and consistent basis for **comparison**

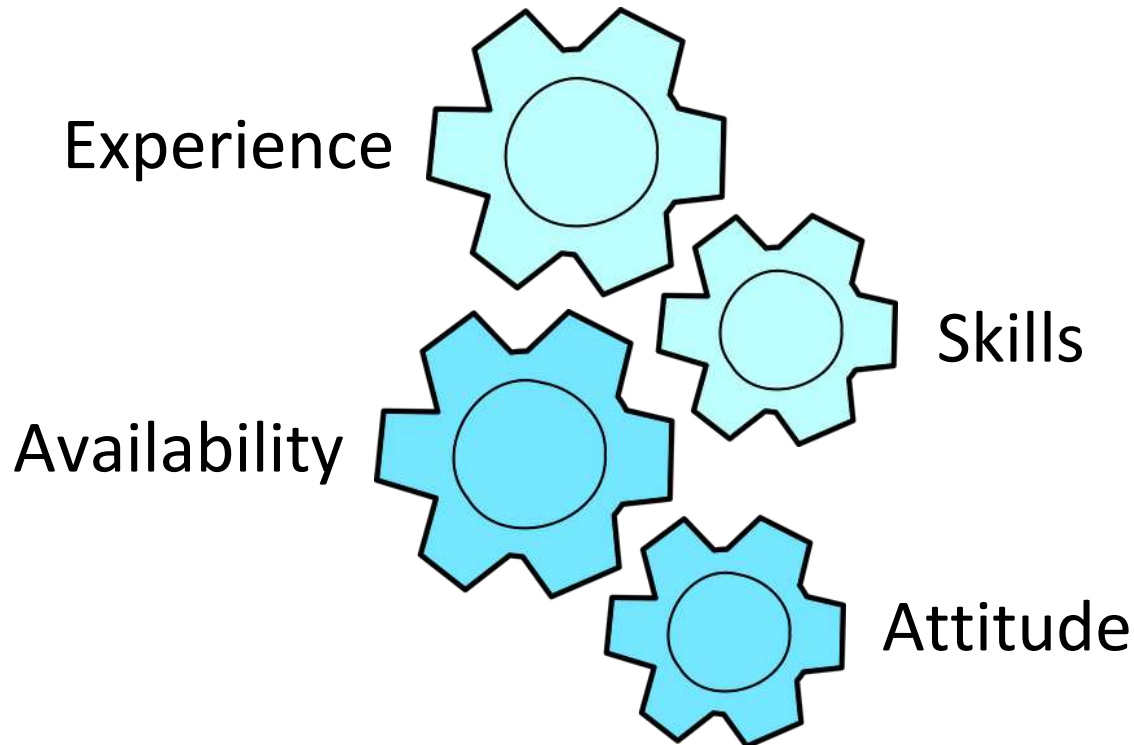
Prioritization Matrix

Evaluation Criteria for Selecting Projects



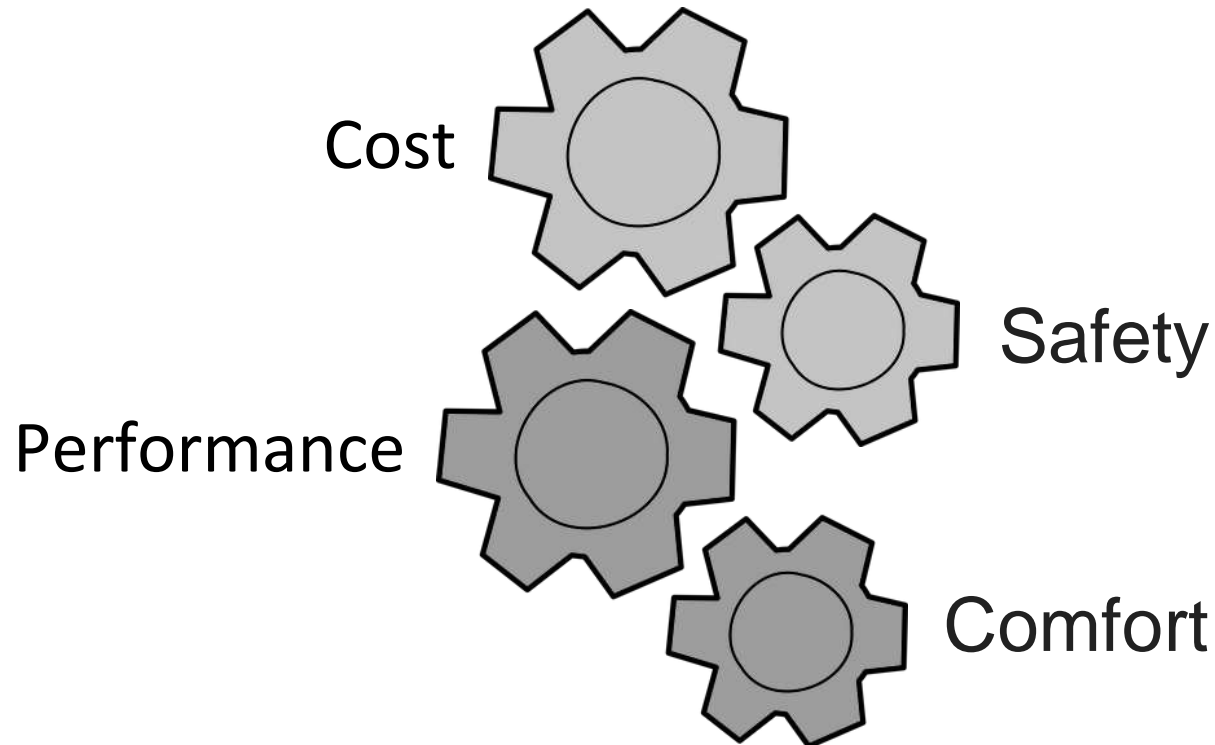
Prioritization Matrix

Evaluation Criteria When Hiring a New Employee



Prioritization Matrix

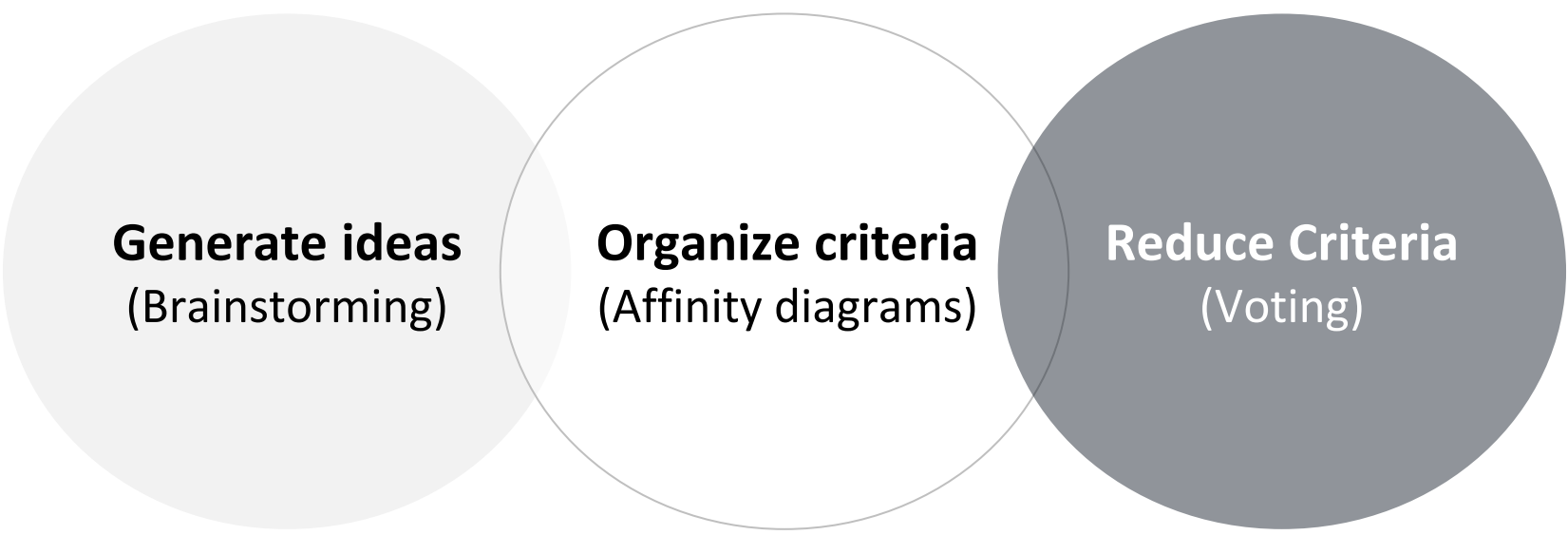
Evaluation Criteria When Buying a New Car



Prioritization Matrix

How to Develop Evaluation Criteria

Evaluation Criteria Development Session



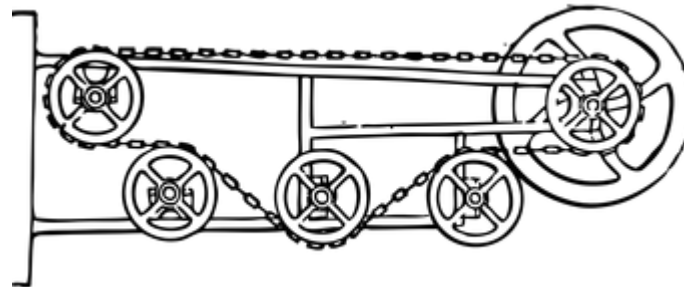
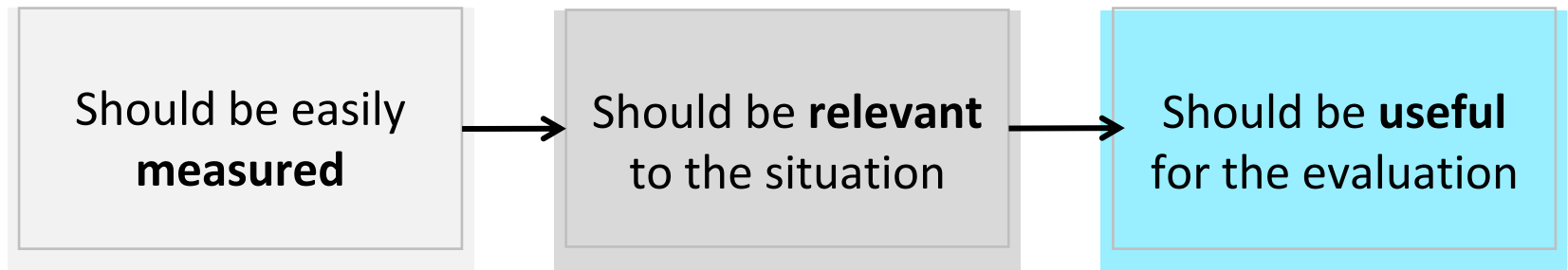
Generate ideas
(Brainstorming)

Organize criteria
(Affinity diagrams)

Reduce Criteria
(Voting)

Prioritization Matrix

Evaluation Criteria



Prioritization Matrix

Questions that may help develop your evaluation criteria . .

Will the solution solve the problem permanently?

Will it improve **customer satisfaction**?

What are the **cost** for implementing the solution?

How **easy** is it to implement?

How much **time** it will take?

Are there any potential problems or **risks** that can arise in future?

Are there any potential regulatory issues that need to be considered?



Prioritization Matrix

Prioritization Matrix Template – Simple

CRITERIA OPTIONS					Scores	Rank

Prioritization Matrix

Prioritization Matrix Template – Rotated Version



OPTIONS CRITERIA				
Scores				
Rank				

Prioritization Matrix

Prioritization Matrix Template – 2 Version

Criteria \ Options					Scores	Rank
Options						



Options \ Criteria						
Criteria						
Scores						
Rank						

Prioritization Matrix

Example – Selecting New Equipment

CRITERIA OPTIONS	Cost effective	Decreased defects	Increased productivity	User friendly	Scores	Rank
New equipment 1	3	2	2	3	10	2
New equipment 2	2	3	3	4	12	1
New equipment 3	1	2	4	2	9	3
New equipment 4	4	1	1	1	7	4

Prioritization Matrix

Weighting Evaluation Criteria

The evaluation criteria can be **weighed** according to their relative importance based on the preferences of the team

For example, when hiring a new employee, skills may weigh less than the experience, because it considered by the recruitment team to be less important.

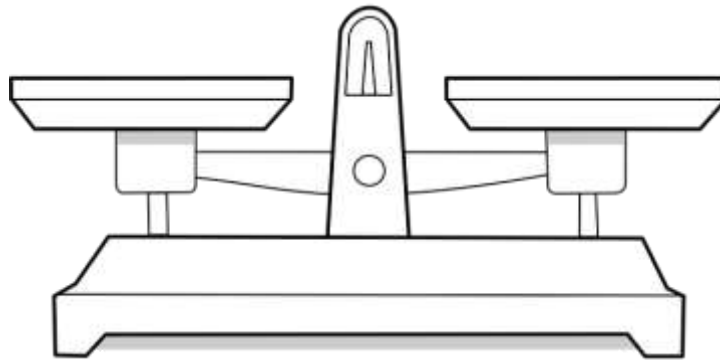


Prioritization Matrix

How to Weight Evaluation Criteria

Allowing the team to **distribute** a certain number of points (for example 100) between the selected criteria

Totaling the scores collected during the evaluation criteria development session



Prioritization Matrix

Weighting Evaluation Criteria - **Selecting New Equipment**

Ask each team member to distribute 100 points between the selected criteria

Criteria	Adam	Emir	Sara	Zekaria	Total
Cost effective	40	10	20	15	85
Decreased defects	15	20	30	15	80
Increased productivity	40	55	50	30	175
User friendly	5	15	0	40	60
	100	100	100	100	

Prioritization Matrix

Prioritization Matrix Template – Includes Weighting

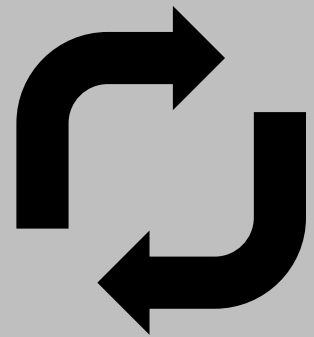
Criteria					Weighted scores	Rank
↓ Options / Weight →						

Prioritization Matrix

Prioritization Matrix Template – Includes Weighting

	Options				
Criteria	Weight				
Weighted scores					
Rank					

**Rotated
Version**



Prioritization Matrix

Prioritization Matrix Template – Includes Weighting

Criteria				Scores	Rank
Weight → ↓ Options					



Options				
Criteria	Weight			
Weighted scores				
Rank				

Prioritization Matrix

Example – Selecting New Equipment

Criteria	Cost effective	Decreased defects	Increased productivity	User friendly		
↓ Options / Weight →	1	1	1	1	Weighted scores	Rank
New equipment 1	3	2	2	3	10	2
New equipment 2	2	3	3	4	12	1
New equipment 3	1	2	4	2	9	3
New equipment 4	4	1	1	1	7	4

Prioritization Matrix

Example – Selecting New Equipment

Criteria	Adam	Emir	Sara	Zekaria	Total
Cost effective	40	10	20	15	85
Decreased defects	15	20	30	15	80
Increased productivity	40	55	50	30	175
User friendly	5	15		40	60
	100	100	100	100	

Criteria	Cost effective	Decreased defects	Increased productivity	User friendly	Weighted scores	Rank
↓ Options / Weight →	0.85	0.8	1.75	0.6		
New equipment 1	3	2	2	3	9.45	3
New equipment 2	2	3	3	4	11.75	1
New equipment 3	1	2	4	2	10.65	2
New equipment 4	4	1	1	1	6.55	4

Prioritization Matrix

Example – Selecting New Equipment

Criteria	Adam	Emir	Sara	Zekaria	Total
Cost effective	40	10	20	15	85
Decreased defects	15	20	30	15	80
Increased productivity	40	55	50	30	175
User friendly	5	15	0	40	60
	100	100	100	100	

You may express weights as a whole number, decimal or percentage

Criteria	Cost effective	Decreased defects	Increased productivity	User friendly	Weighted scores	Rank
	0.85	0.8	1.75	0.6		
New equipment 1	3	2	2	3	9.45	3
New equipment 2	2	3	3	4	11.75	1
New equipment 3	1	2	4	2	10.65	2
New equipment 4	4	1	1	1	6.55	4

Scores for each criterion are multiplied with their weights

Prioritization Matrix

How to Construct and Use a Prioritization Matrix

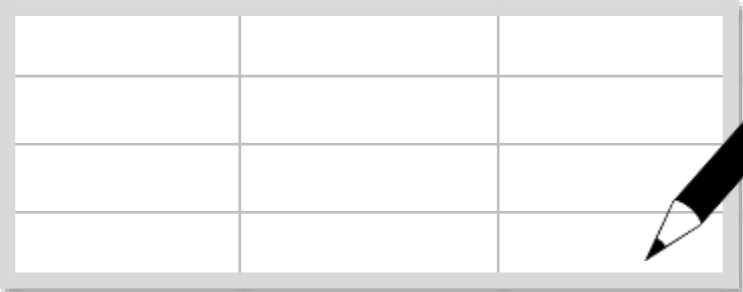
Explain the **purpose** for constructing the prioritization matrix

Identify and agree on the **alternatives** that need to be prioritized

Note: All alternatives are subject to being changed during the prioritization session

Alternatives

1			
2			
3			



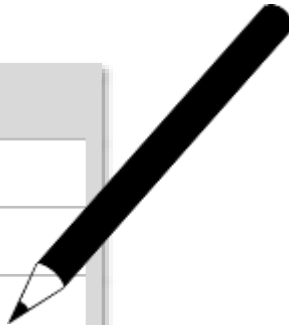
Prioritization Matrix

How to Construct and Use a Prioritization Matrix

Select the **evaluation criteria** and their weights

Ensure that the evaluation criteria and their weights are agreed by all

	Criteria		
	1	2	3
1			
2			
3			



Prioritization Matrix

How to Construct and Use a Prioritization Matrix

Facilitate the prioritization session by allowing each team member to **rank** the alternatives against each criteria from best to worst

The best will have the highest rank score
(e.g., 5 out of 5 alternatives)

The image displays three 3x3 prioritization matrix templates. Each matrix has a header row with columns labeled 1, 2, and 3, and a header column with rows labeled 1, 2, and 3. The matrices are arranged in a staggered layout: one at the top center, one at the bottom left, and one at the bottom right.

	1	2	3
1			
2			
3			

1	1	2	3

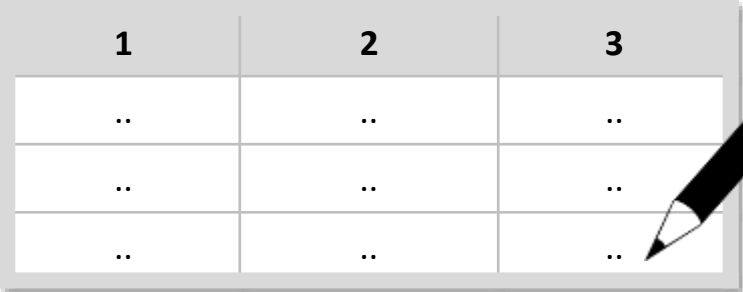
	1	2	3
1			
2			
3			

Prioritization Matrix

How to Construct and Use a Prioritization Matrix

Collect the team's rank scores and add them up on **one worksheet**

The general preference score is the weighted average of all criteria



	1	2	3
1
2
3

Prioritization Matrix

How to Construct and Use a Prioritization Matrix

Calculate the final weighted **scores** for each alternative

Sort the items by their **ranks** to make them clearer for communication and decision making

	1	2	3	Scores	Rank
1
2
3

Prioritization Matrix

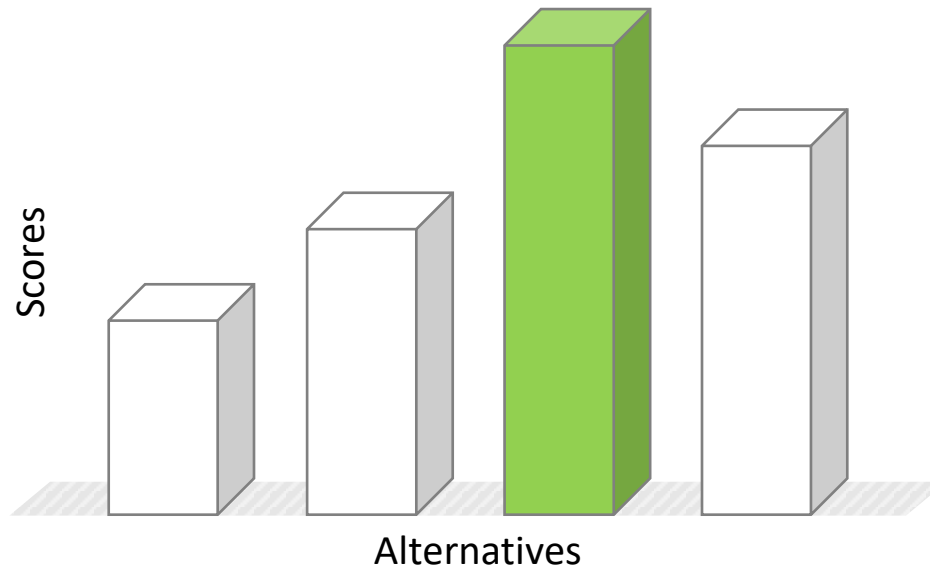
Example – Select the Most Efficient Data Collection Method
At a workplace

Criteria	Cost	Response time	Quantity	Weighted scores	Rank
↓ Option / Weight →	0.4	0.2	0.3		
Questionnaire	4	1	4	4.8	1
Interview	2	4	1	4.3	2
Observation	3	2	3	3.7	3
Focus group	1	3	2	2.2	4

Note: High score of cost doesn't mean that the cost is high, but low (or cost-effective)

Prioritization Matrix

The outcomes of the analysis can be **presented** using a bar chart to see which alternative is the most suitable based on the scores of the team

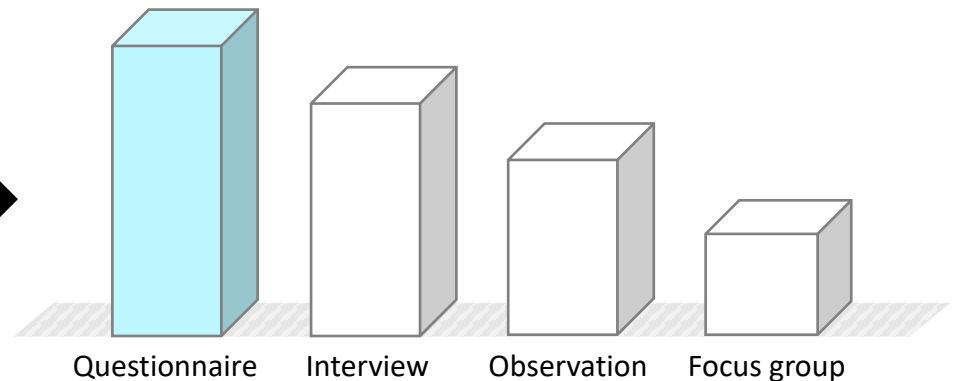
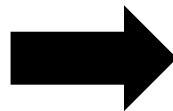


Prioritization Matrix

Example – Select the Most Efficient Data Collection Method

Criteria	Cost	Response time	Quantity	Weighted scores	Rank
↓ Option / Weight →	0.4	0.2	0.3		
Questionnaire	4	1	4	4.8	1
Interview	2	4	1	4.3	2
Observation	3	2	3	3.7	3
Focus group	1	3	2	2.2	4

An ordered bar chart that represents the results



Prioritization Matrix

Example – Project Selection

A manufacturing company needs to select **two projects** to be implemented this year. Consider the following project alternatives and criteria . . .

	Cost \$	Savings \$ 1 st year (X3)	Months to complete
Energy reduction	\$36,000	\$43,000	10
Spoilage reduction	\$30,000	\$120,000	12
Reduce strap width	\$5,500	\$11,000	3
Reduce stretch wrap usage	\$7,000	\$4,000	5
Reduce over varnish usage	\$20,000	\$66,000	8

Prioritization Matrix

Example – Project Selection

It was agreed that **savings** should be given a weight of 3 as it is relatively more important than the other two criteria

Criteria	Cost \$	Savings \$ (1 st year)	Months to complete	Weighted scores	Rank
↓ Option / Weight →	1	3	1		
Energy reduction	1	3X3= 9	2	12	4th
Spoilage reduction	2	5X3 = 15	1	18	1st
Reduce strap width	5	2X3 = 6	5	16	3rd
Reduce stretch wrap usage	4	1X3 = 3	4	11	5th
Reduce over varnish usage	3	4X3 = 12	3	18	1st

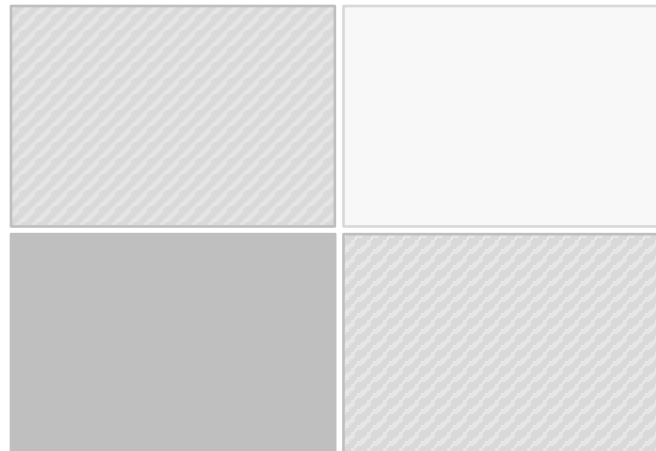
Prioritization Matrix

Four Field Prioritization Matrix

Used to prioritize and present the alternatives

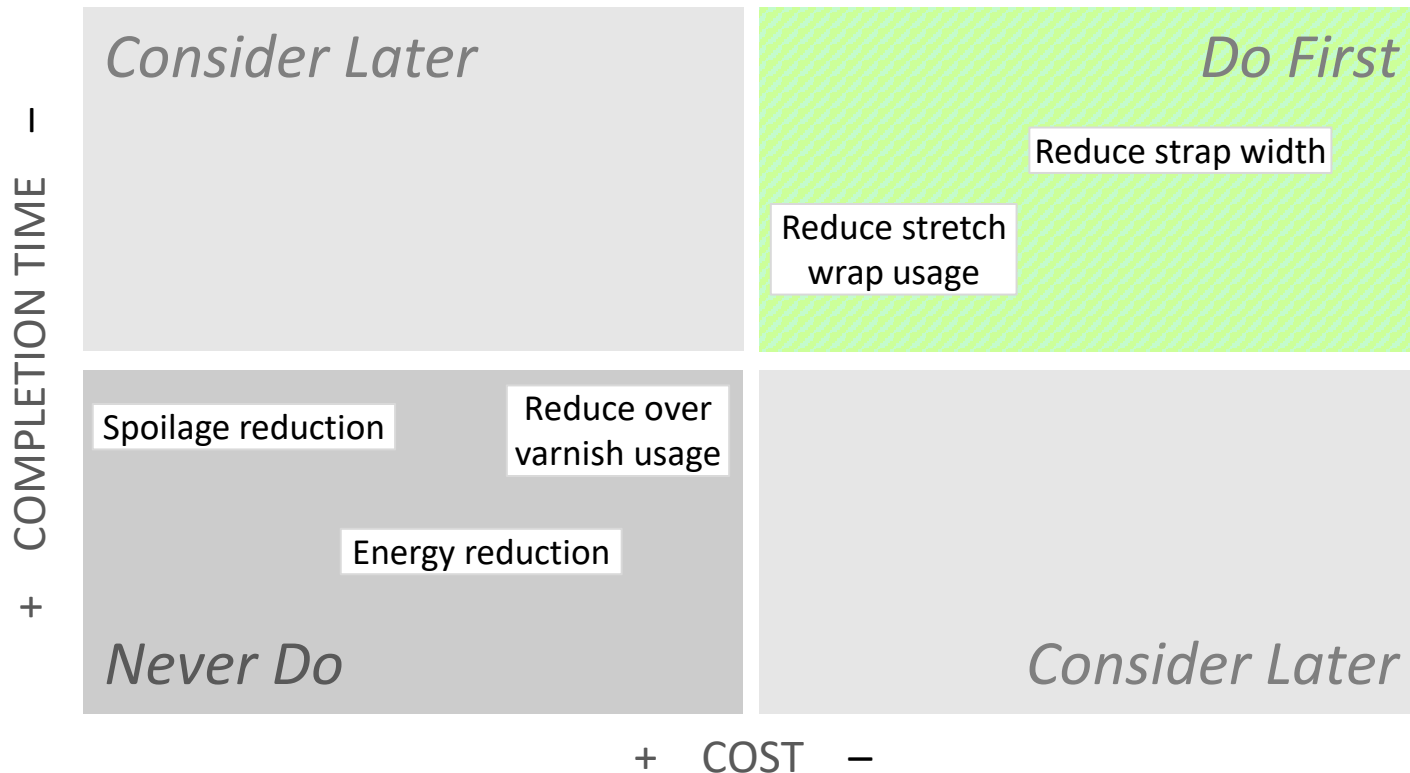
Used if you have only two criteria

A four-field matrix



Prioritization Matrix

Four Field Prioritization Matrix – Example



Prioritization Matrix

Further Information

It is important to include people with **enough knowledge** of the situation to avoid missing any critical point



Prioritization Matrix

Further Information

Also used when you need to **prioritize customer needs** based on what customers say is important

