



Continuous Improvement Toolkit

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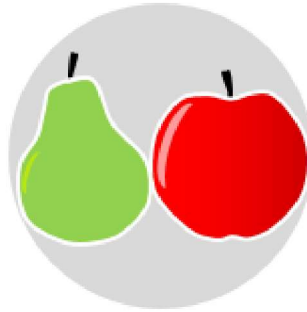
MINITAB . 5S

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Paired Comparison

Paired Comparison Analysis

is an activity for evaluating a small range of options by comparing them against each other. It is a useful and easy technique for rating and ranking alternatives where the evaluation criteria are subjective by nature. This is practically helpful when [priorities](#) are not clear enough, when alternatives are completely different from one another, or when there is little objective data to base our decision on.



Paired comparison is often used to choose the most compelling problem to solve, or to select the alternative that will be the most effective. It is useful in a wide range of applications, from selecting the concept design for a new product before it goes into production, to deciding the skills and qualifications when hiring people for a new position. [Decisions](#) like these are more difficult to make than comparing which investment to take or which vendor to select (we will select the vendor who will give us the highest quality with the best price and the fastest delivery).

Paired comparison analysis is often performed with the aid of a [matrix](#). This

	Option A	Option B	Option C	Option D
Option A		A vs. B		
Option B				
Option C				
Option D				

The Paired Comparison Matrix

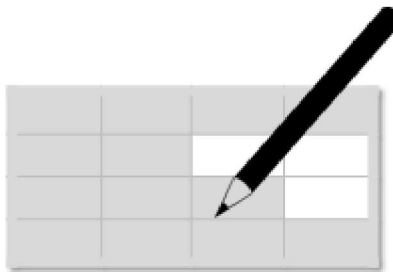
matrix should be

made in a way that avoids comparing an option with itself or duplicating any comparison. Two additional rows can be added to the end of the table to represent:

- The number of times each option has been selected.
- The ranking of all options based on their count.

How to Implement a Paired Comparison Analysis

- With your team, identify the options to be evaluated.
- Identify the evaluation criterion to help you make the decision (e.g. the most important, the most interesting, or the easiest to implement).
- List all the options on the left hand column and on the top row of the matrix.
- In each blank cell, compare the option in the row with the option in the column, then write in the cell the option that better meets the evaluation criterion.
- Repeat the process until all possible pairs are evaluated.
- Count the number of times each option has been chosen.



- Rank the options based on their count.
- Consider the options with the highest ranking.

Note: Further solutions can be developed by mixing the positive aspects of a number of solutions.

Example

As an example, let's say that you want to decide how to spend your coming summer holidays and you have four ideas in mind. Use the paired comparison analysis to help you make this decision.

	A: Write a book	B: Take a course	C: With family	D: Long walks
A: Write a book		B	C	D
B: Take a course			C	B
C: With family				C
D: Long walks				
Count	0	2	3	1
Rank	4	2	1	3

Here, the highest rank is the third option, that is, spending time with family.

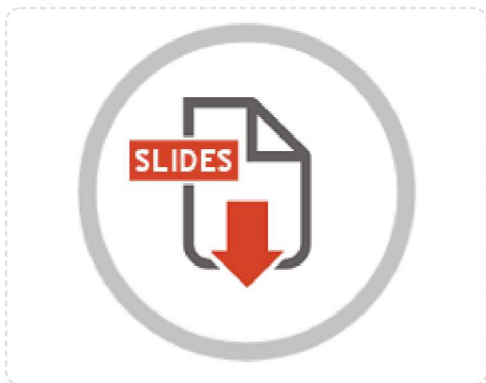
Example

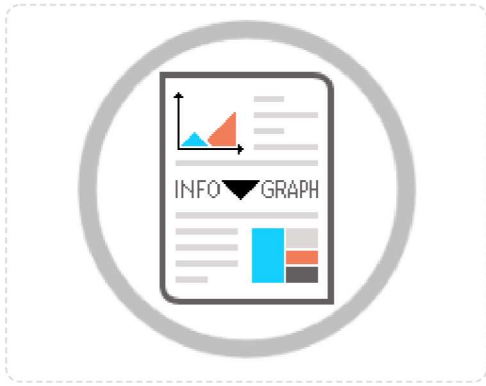
The following is an example that uses the paired comparison analysis to identify and rank the top motivators for a team.

	A	B	C	D	E	F	G	H	I
A: Appreciation		A	A	A	A	A	A	A	A
B: Achievement			C	B	B	B	G	B	B
C: Work condition				C	C	C	G	C	C
D: Power					D	D	G	D	I
E: Creativity						F	G	E	I
F: Interest							G	F	I
G: Financial benefits								G	G
H: Relationship									I
I: Self development									
Count	8	5	6	3	1	2	7	0	4
Rank	1	4	3	6	8	7	2	9	5

The team has selected 'appreciation' to be their top motivator, then comes the 'financial benefits'.

Other Formats



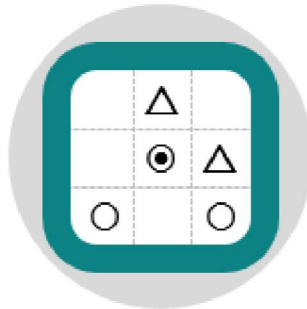


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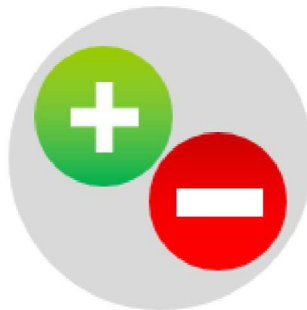
Prioritization Matrix



Matrix Diagram



Pugh Matrix



Related Templates

Prioritization Matrix

	Alternatives			
Criteria				
	4	2	1	3

Pugh Matrix

	Alternatives		
Criteria			
	+	-	0
	+	0	+
	-	+	-

Skills Matrix

	Skill 1	Skill 2	Skill 3
Name 1			
Name 2			
Name 3			
Name 4			
Name 5			

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