

DESCRIPTION

A matrix diagram is a tool used for analyzing and displaying the relationship between two or more data sets. The matrix diagram shows the relationship between groups of information. Multiple types of matrix diagrams are available depending on the number of groups analyzed.

STRENGTHS

- Visually helps display relationship strength between different data sets.

WEAKNESSES

- Might be time-consuming for simple situations.
- The more data sets and groups analyzed the more complex it is to construct the diagram.

APPLICATIONS

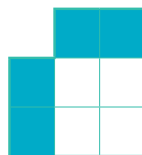
1. Determine the cause of the problem.
2. Assigning resources based on their expertise and needs.
3. Comparing the outcomes of various alternatives.
4. Identifying areas where improvements can be made.

HELPFUL HINTS

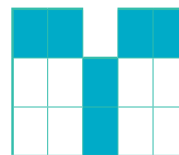
To Construct:

- **Determine the objective**
 - Determine the relationship between the data sets and the intention of the matrix diagram. This will help in the selection of the team, data collection, and matrix chart.
- **Choose a team**
 - Choose a team that is knowledgeable about the process as well as data collection.
- **Determine the appropriate matrix diagram**
 - The team must choose the appropriate matrix chart and the type of symbols to determine the relationship between the groups based on the project's goal and data source.
- **Plan and collect data**
 - The team must plan and collect accurate data for different data sets.
- **Document the relationship between the groups**
 - The team must use suitable symbols or techniques to document the relationship between the groups and gain consensus among the team members.

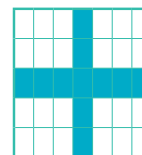
Matrix Type	Number of Groups
L-Shaped	2 groups
T-Shaped	3 groups
X-Shaped	4 groups
Y-Shaped	3 groups



L-Shaped



T-Shaped



X-Shaped



Y-Shaped

- **Make decisions**
 - Examine the group's relationships and draw a conclusion based on the data.



EXAMPLES

Problem: Analyzer Selection

L - Shaped Matrix Diagram

- › The simplest and commonly used matrix chart for comparing only two data sets.
- › A two-dimensional table with one variable on the X-axis and another on the Y-axis that is used to compare only two sets of data or relationships within a single category.
- › Use symbols to help you visualize the relationship between the elements in intersecting cells and indicate the relationship's strength.
- › Other information can be displayed including: the totals and the overall strength of the relationship.

CRITERIA	CHOICES		
	ABC company	DEF company	GHI company
Ease of use	5	1	3
Test availability	5	1	1
Customer service	3	1	5
Reliability	3	5	3
	16	8	12

ABC company shows the highest value in comparison to the other two choices. Weighting (not included in example) can also be used for prioritization and ranking.

Relationship	Strong	Medium	Weak
Value	5	3	1