

## Group Analysis

### Moving from the Individual Report to the Group Analysis

- What relationships did you find to be important in your two cases?
- Does this work suggest variables that should either be eliminate from further consideration or new variables that should be considered?
- Do they obtain across the 6 or 8 cases?

### Next Steps

- Create the matrix that will form the basis for your analysis.
- The rows will be your cases.
- The columns will represent your variables
- Each cell then will contain the value of that variable for that case study.

### Implications

- All cases have to use the same variables.
- All cases have to have each variable measured in the same way. Using the same data source is best, but not absolutely essential.
- Empty cells (Missing data) are a real problem. Try to get complete data. Make sure to share data sources.
- If can't get the data, you can either drop the variable from the analysis or measure it in such a way that everyone can get the data.

## Techniques for Quantifying Qualitative Variables

Country	Kyoto Ratification	Whale Species	Recovery Rate	Whale Species	Success of recovery
UK	1	Orca	90%	Orca	1
Canada	1	Sperm	80%	Sperm	2
US	0	Humpback	65%	Humpback	3
Australia	0	Right	20%	Right	4

## Note

- When using a ranking, you need to document your technique such that others could follow your procedure and get the same ranking. It cannot be purely subjective.
- Sometimes you can turn a qualitative variable into an continuous variable.
- For example if the variable concerns the existence of a policy (normally a 1 or 0), you could use the number of years the policy has been in force.
- Or if it is a tax policy you could include the tax rate as a variable (cents/gallon).

## The Next Steps: Using your Matrix

- Sort the matrix so the cases are ordered by the value of the dependent variable.
- Observe the pattern, if any, that emerges.
- Is that pattern broadly consistent with the hypothesis?
- Are there individual cases that seem to be outliers?

## Sorting your group matrix

Species	DV: Recovery	EV: Regulation	EV: Public \$	EV: Awareness campaign	EV: Habitat Protection
A	1	1	2	1	1
B	1	1	3	1	1
C	0	1	1	0	0
D	0	1	4	0	0

## Analyzing Explanatory Variables

Whale Species	Success of recovery	Biological	Regulation
Orca	1	1	3
Sperm	2	2	1
Humpback	3	3	4
Right	4	4	2

## Identifying Outliers I

Whale Species	Success of recovery	Regulation
Orca	1	1
Sperm	2	2
Humpback	3	4
Right	4	3

## Identifying Outliers II

Country	DV: Sustainability	EV: Income
Austria	1	1
Bulgaria	2	5
Canada	3	3
Denmark	4	4
Egypt	5	6
France	6	2
Ghana	7	7
Honduras	8	8

## What does this pattern suggest?

Country	DV: Sustainability	EV: Income
Austria	1	2
Denmark	2	4
France	3	1
Canada	4	3
Bulgaria	5	5
Egypt	6	6
Ghana	7	7
Honduras	8	8

## Deepening the Analysis

- Is your original hypothesis supported?
  - Yes: explain the mechanism, provide detailed evidence from your cases
  - No: why not? What there another variable that is more important? Was there an intervening factor or a combination of factors?
  - Yes, but some cases did not fit: why, what did we learn from the “outliers?” Why, do you think, are they outliers?
- What other factors/variables did you find to be important. Were they important across all cases, or in some cases? Explain and illustrate.

## The Steps: Summary

- Harmonize all variables between cases.
- Quantify and document all variables
- Create the matrix
- Sort the matrix by the dependent variable
- Identify patterns and outliers
- Test consistency of these patterns with your hypothesis or hypotheses.
- Explain the findings including the consistency with hypothesis including some sense of what can be learned from the outliers. Comment (to the extent you can) on the strengths or weaknesses of those findings.
- Draw out the implications of your findings.
- Suggest areas where further research might be particularly useful.