Effective Use of Ordinal Scales
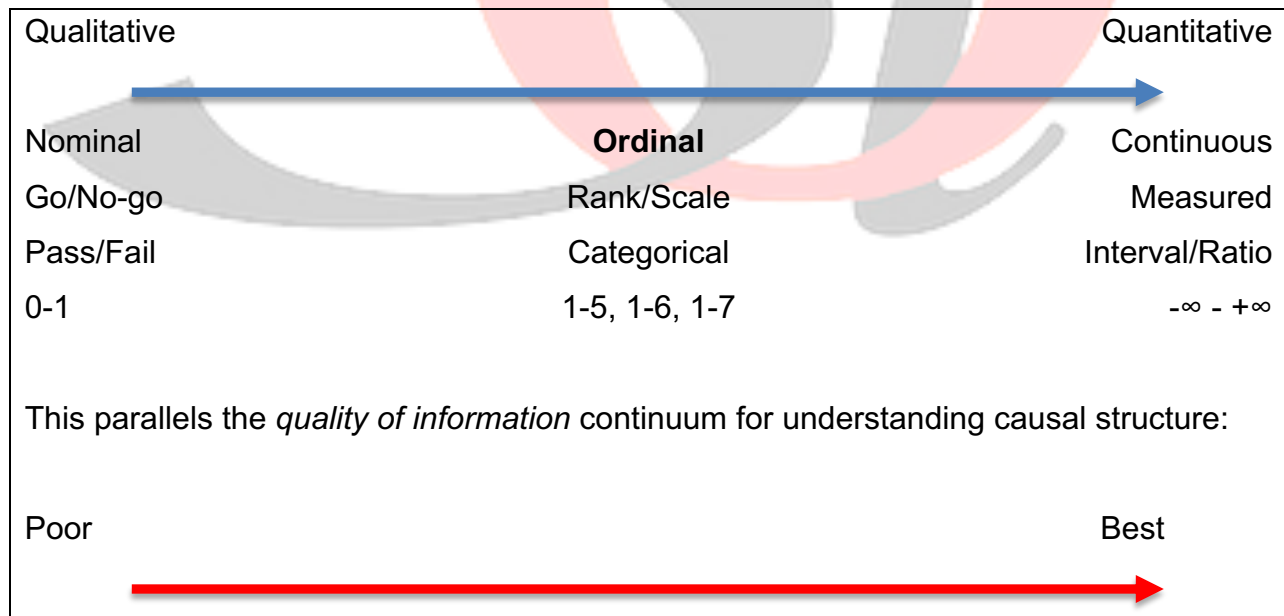
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Abstract

This paper is intended to highlight some of the issues and provide some advice regarding the appropriate use of ordinal data sets used to quantify variation in samples being measured. Ordinal scales are most useful in assessing variation when the measurement is the result of sensory perception (i.e., visual, taste, smell, audible, feel). Companies often want to understand how their customers perceive their product, and then understand what factors affect this perception. Clues may be derived from the collection and analysis of such data, however it is always better to model quantitative data.

Questions stimulating the discussion include: How are customer preferences quantified? How can judgment or sensory perception be quantified? How are respondent[1] biases handled? How should such data sets be analyzed? How should data be collected? What are the limitations of such data sets?

Figure 1: A Summary of Types of Data

Qualitative		Quantitative
Nominal	**Ordinal**	Continuous
Go/No-go	Rank/Scale	Measured
Pass/Fail	Categorical	Interval/Ratio
0-1	1-5, 1-6, 1-7	$-\infty - +\infty$

This parallels the *quality of information* continuum for understanding causal structure:

Poor		Best

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[1] Respondent refers to inspector, appraiser, scorer, evaluator or survey participant.