Design

Goals: Implement a sampling scheme to honestly and rigorously test a hypothesis.

Concerns: Field work is challenging, often impractical, and leads to highly variable results.

Solutions: Conceive of where the variability lies, and how big it is likely to be. This may be from personal experience (data, or anecdotes), the literature, or a WAG (Wild Ass Guess). Following that, pick a sampling design that will satisfy the nature of your question and the variability of your data.

Quantitative evaluation of variability, a priori power test.