

Sampling: Ups, downs,  
& doing it right

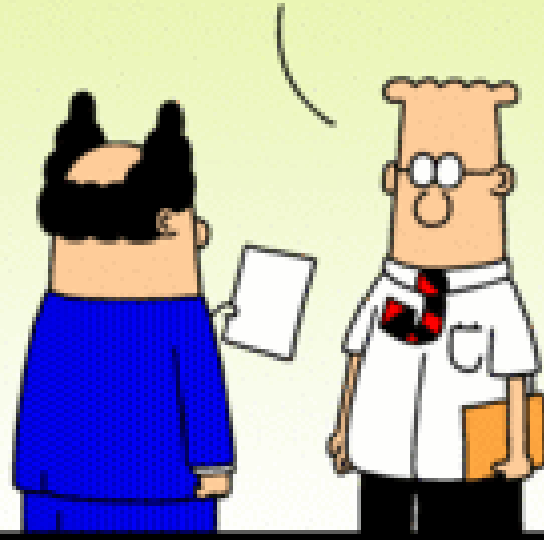
# Chapter 12

WE HAVE INCOMPLETE DATA, SO I'LL NEED TO USE MY INTUITION AND EXPERIENCE TO MAKE THE DECISION.



Dilbert.com DilbertCartoonist@gmail.com

BECAUSE MAGICAL THINKING FIXES IGNORANCE?

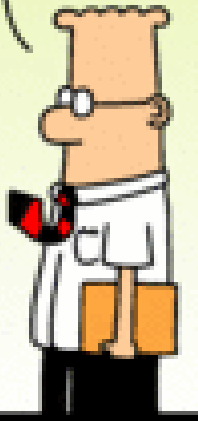


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HUSH!  
I THINK I HAVE SOME-  
THING.



I THINK SO TOO.



## The Theory behind the mechanics

We have some population  
(and we don't know how big  
OR we do know how big and  
we just are NOT going to ask  
that many people)

## The Theory behind the mechanics

### The Population of Interest

AND, we have a question. Something we want to know about. It can be one something, or many somethings, but we want to learn how the **POPULATION OF INTEREST** responds to the questions we ask.

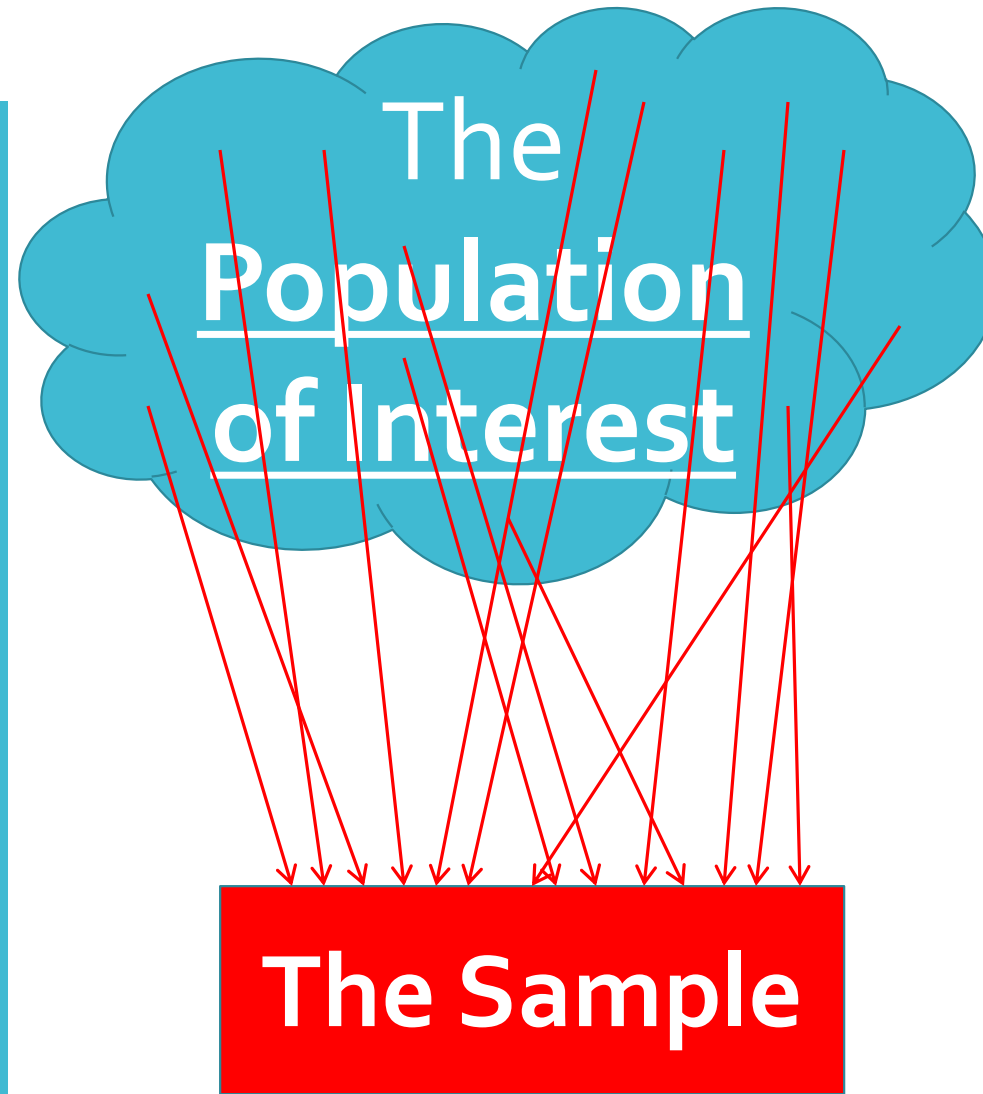
# The Theory behind the mechanics

## The Population of Interest

But, unless we have a small, defined POPULATION OF INTEREST, doing a CENSUS, well, ... sucks.

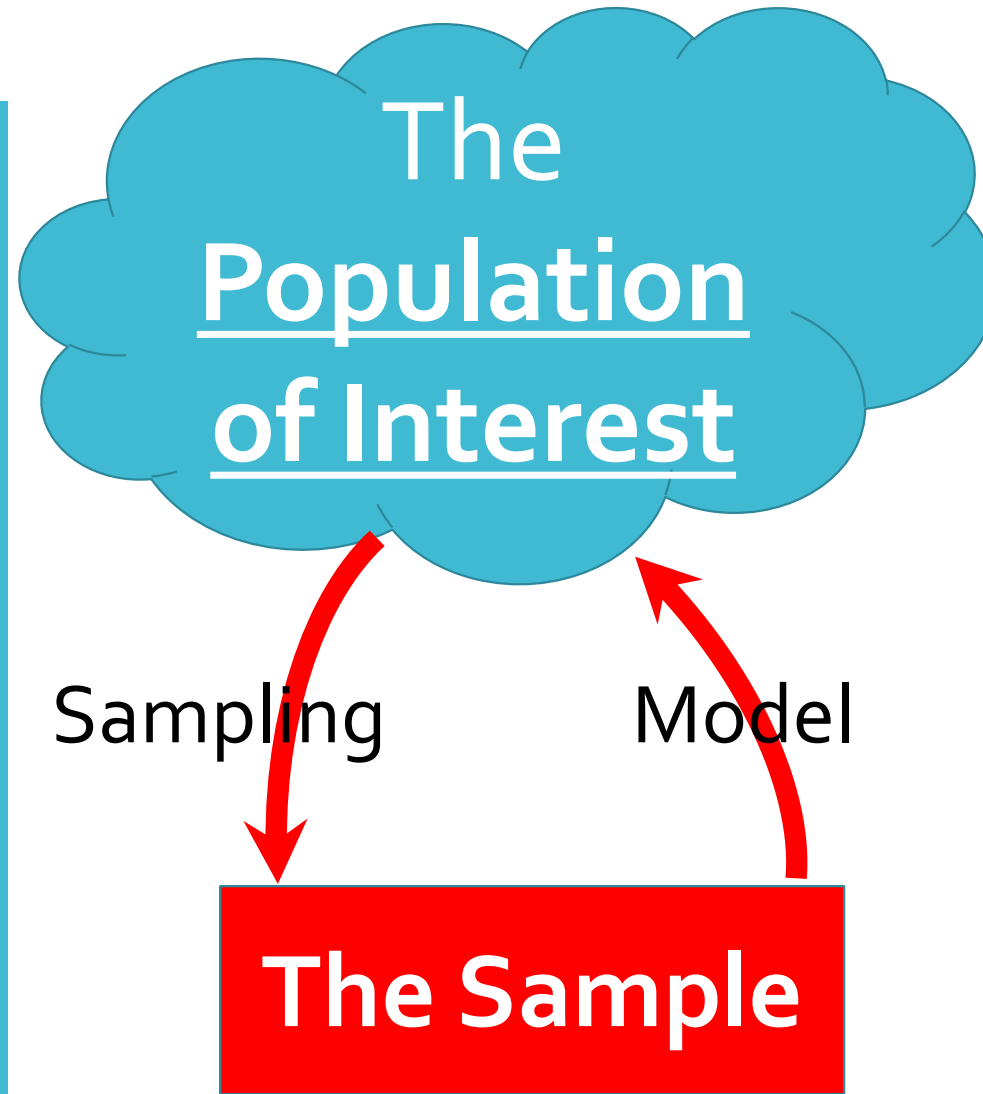
Too many pp, too expensive, too hard.

# The Theory behind the mechanics



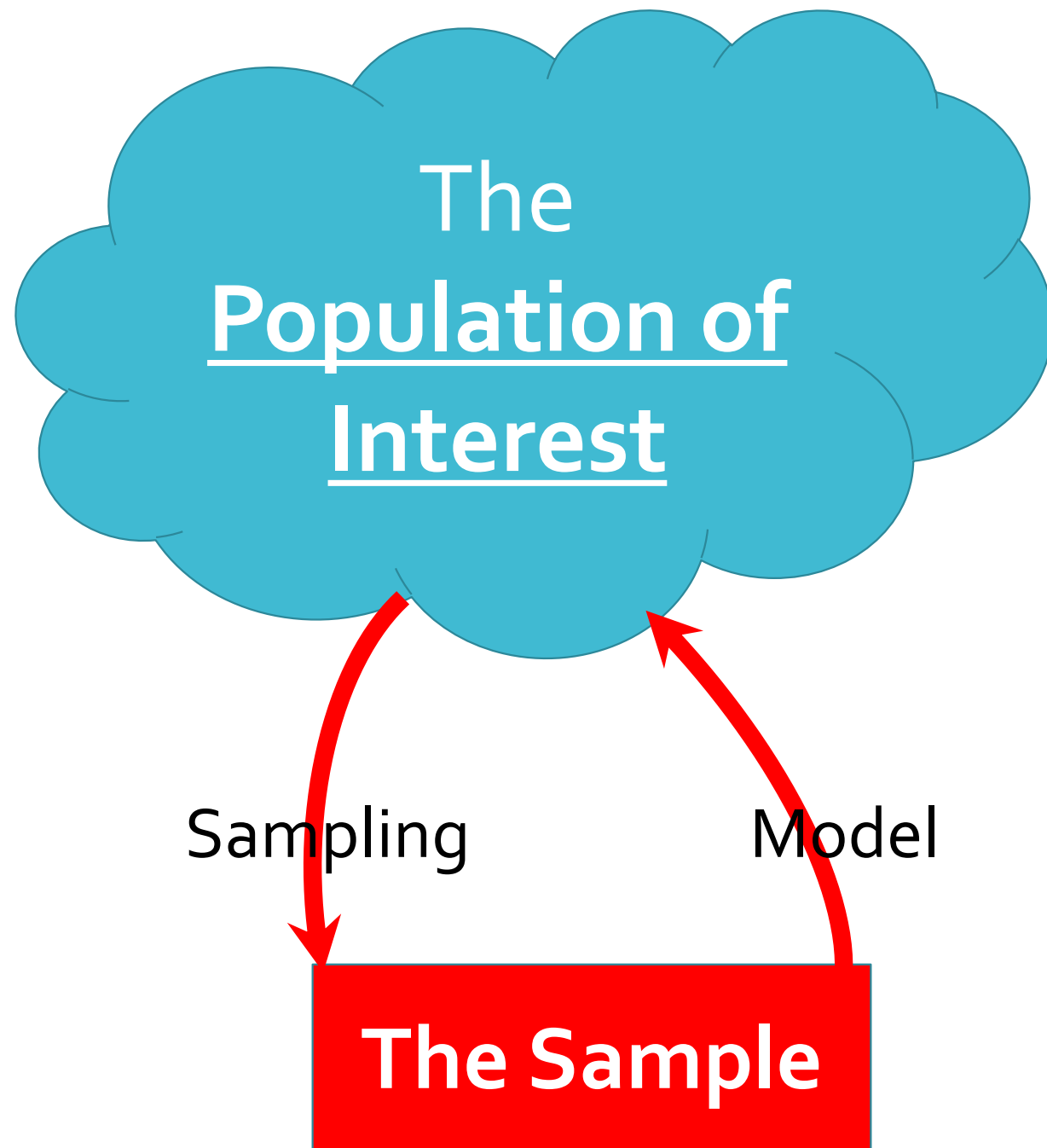
So .... We do a **RANDOM SAMPLE** from the **POPULATION OF INTEREST**, and if we sample well, we will get a **REPRESENTATIVE SAMPLE** of the population.

The Theory  
behind the  
mechanics



If we avoided **BIAS**, and used a good **SAMPLING TECHNIQUE** that helps create a **REPRESENTATIVE SAMPLE** then we can construct a **MODEL** that describes the **POPULATION OF INTEREST**.

The Theory  
behind the  
mechanics





The  
Vocabulary list  
you are  
responsible for  
(so far)!

- POPULATION OF INTEREST
- RANDOM
- SAMPLE (and VARIABILITY of)
- REPRESENTATIVE SAMPLE
- SAMPLING TECHNIQUE
  - CENSUS (+ 7 more types, some bad ones some good ones)
- BIAS (what it is and 4 types)

The  
Vocabulary list  
you are  
responsible for  
(so far)!

- **SAMPLE SIZE** (what should it be?)
- **MODEL**
  - **PARAMETER**
  - **STATISTICS**

## Your Task:

- In groups, find the terms and come up with definitions for them. Each group is responsible for ALL the definitions, and I will randomly select groups to present the definitions.

- Bias:
  - Definition