

Wisdom of the Crowds: Survey Results

Overview of Experiment

Five questions were asked during the introduction to the wisdom of the crowd experiment. They were as follows:

- What is the total area of India in km²?
- In what year was the painting made?
- How many dots are in the figure?
- How many runs will India score in the upcoming cricket match?
- How many runs will Pakistan score in the upcoming cricket match?

The painting question was a multiple choice question where participants were asked to choose between four possible years. All others were open-ended where participants were asked to enter text.

Data Preprocessing and Outlier Detection

Visual inspection of the data exhibited obviously erroneous data points which were removed prior to proceeding with the data analysis. These were mostly due to incorrect units used (eg. Lakhs instead of Km when estimating the landmass of India), or participants submitting answers before the images were shown and explained (eg. answers of 0 dots). For the number of dots question, observations less than 10 were removed (4 observations). For the landmass of India question, observations less than 100 were removed (1 observation).

Summary Statistics

Tables 1 and 2 below represent summary statistics for the in-class survey results. After the removal of erroneous data points, a total of 83 data points remained. The Rank metric indicates the percentile rank of the metric (mean, geometric mean, median, etc.) relative to the crowd responses in terms of the distance from the correct answer.

The histograms in Figures 1-4 show the distribution of the responses. The solid line indicates the correct answer and the dashed line indicates the median guess of participants.

Task	Correct value	Mean	RankMean	Median	RankMedian	TruncMean	RankTruncMean	GeoMean	RankGeoMean
IndiaSize	3,287,590	8,245,803	0.18	1,500,000	0.72	4,135,343	0.81	884,266	0.57
Painting	1890	1847.83	0.71	1820	0.71	1847.83	0.71	1846.75	0.71
Dots	1,149	73.623	0.02	700	0.73	995.48	0.88	617.61	0.71
IndiaRuns	300	300.23	0.90	280	0.72	283.49	0.72	284.66	0.72
PakistanRuns	224	304.82	0.07	250	0.66	252.18	0.58	253.95	0.58

Table 1: Summary Statistics

Task	Correct value	Nr Participants	Min	Max	St.Dev	Skewness
IndiaSize	3,287,590	83	100	100,000,000	19,629,310	3.59
Painting	1890	83	1750	1960	63.69	0.21
Dots	1,149	83	10	5,000,000	558,207.40	8.33
IndiaRuns	300	83	70	1,234	137.73	5.25
PakistanRuns	224	83	50	4,312	454.95	8.27

Table 2: Summary Statistics

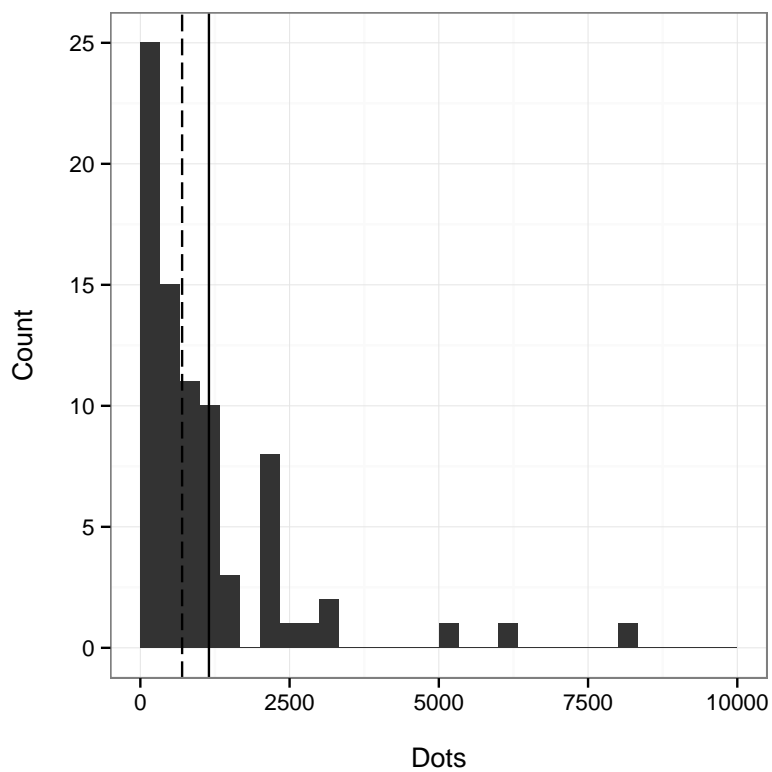


Figure 1: Distribution of guesses for the number of dots

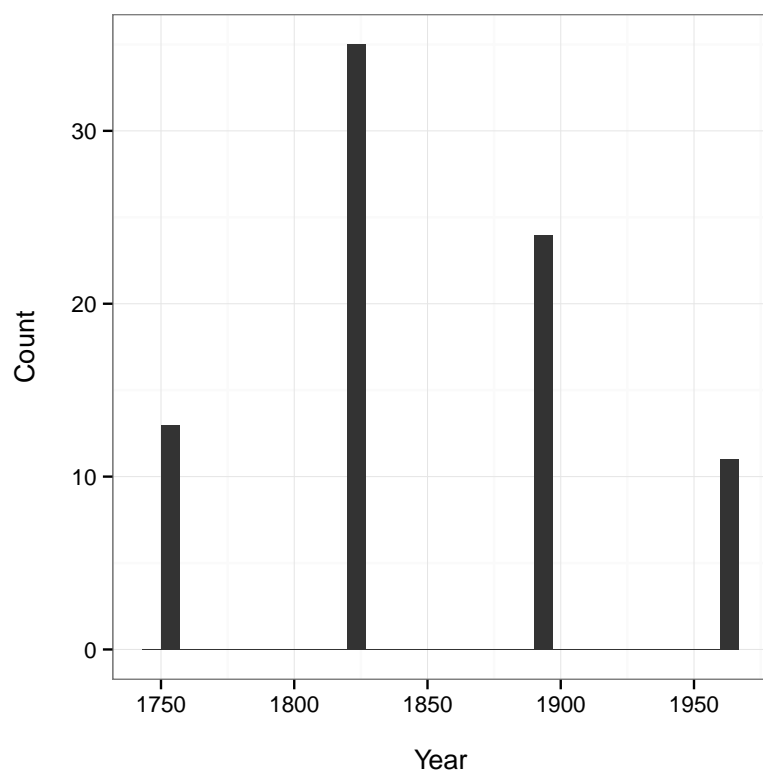
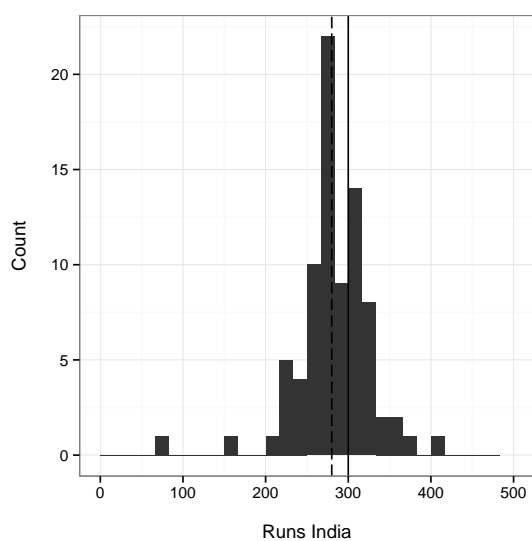
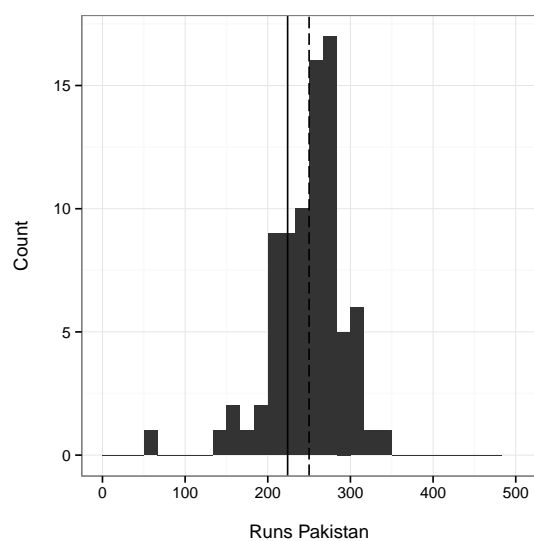


Figure 2: Distribution of guesses for the year of painting



(a)



(b)

Figure 3: Distribution of guesses for the number of runs for India 3(a) and Pakistan 3(b).

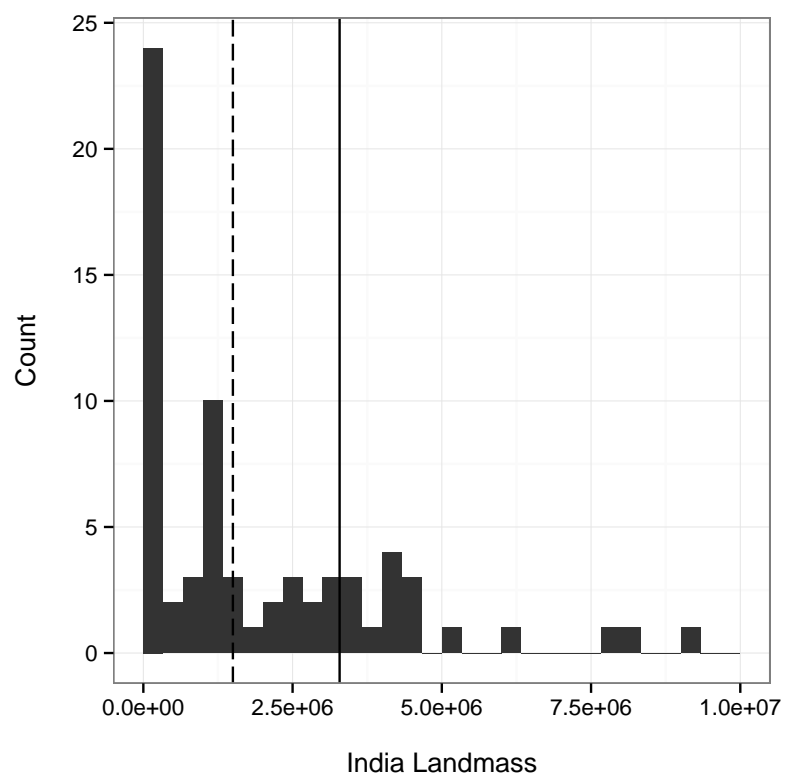


Figure 4: Distribution of guesses for the landmass of India