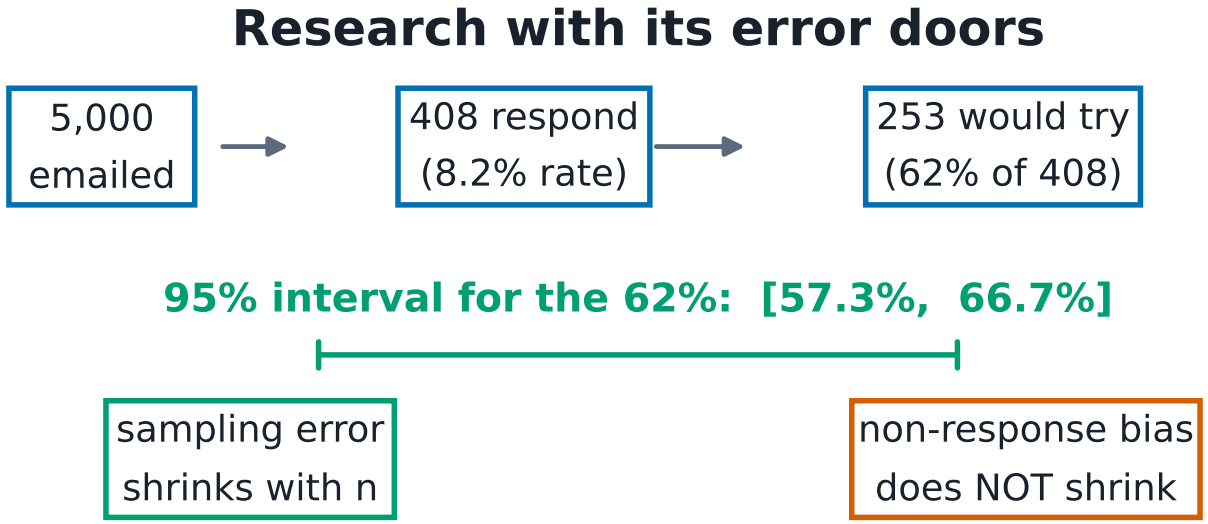
Exercise walk-through

7.1
Marketing research

University Business

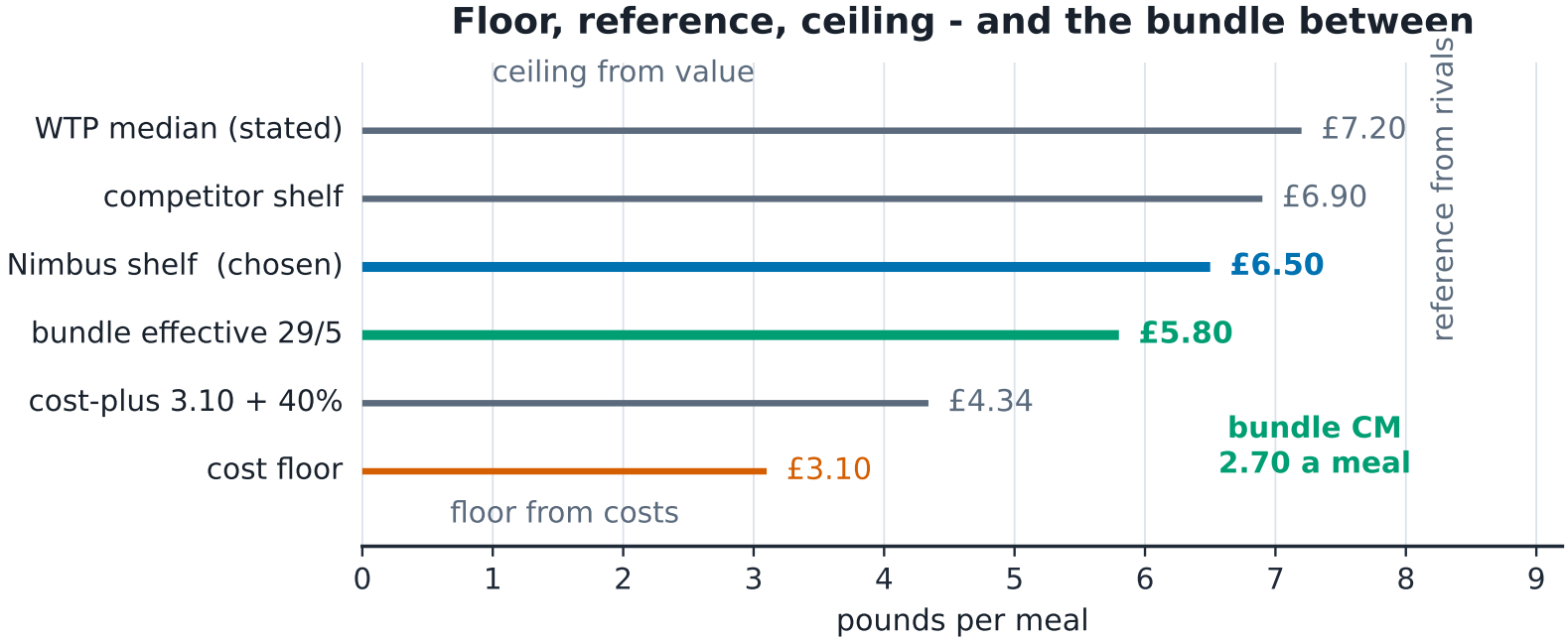
Research: make the belief killable



the survey aims; the A/B offer to 200 (27 accept, 13.5%) decides

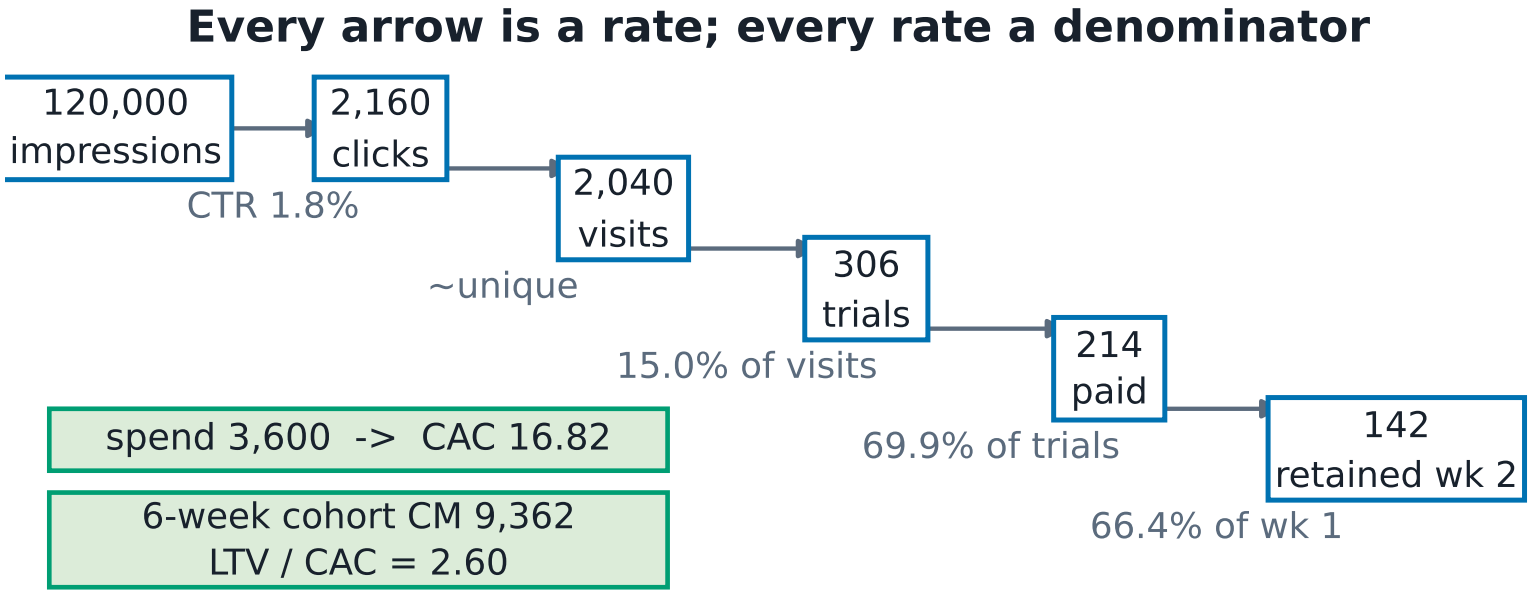
5,000 emailed, 408 replied: 62% intent, interval [57.3, 66.7].

Pricing: floor, reference, ceiling



Floor from cost 3.10, reference from rivals 6.90, ceiling from **value** 7.20.

Promotion: honest denominators



120,000 impressions become 142 retained: CAC 16.82, LTV/CAC 2.60.

Exercises 2.1·2.2

2.1 Compute the response rate and the 95% interval for the 71%. [4]

2.2 In two lines: why does the 71% likely overstate the customer base, and what cheap repair tests it? [3]

Exercises 2.1·2.2

2.1 Compute the response rate and the 95% interval for the 71%. [4]

2.1

- Response rate $= 342/6{,}000 = 5.7\%$.
- $1.96\sqrt{0.71 \times 0.29/342} = 0.048$.
- Interval $= [66.2\%, 75.8\%]$.
- Stated with both hedges: interval AND response rate.

2.2 In two lines: why does the 71% likely overstate the customer base, and what cheap repair tests it? [3]

2.2

- Enthusiastic plant-lovers answer plant surveys – selection + non-response bias.
- Repair: an A/B offer to a random sample watches behaviour.
- Behaviour, not intention, is the launch number.

Exercises 2.3·2.4

2.3 Rewrite “Do people like our plants?” into a researchable question, and state the data that would answer it. [3]

2.4 An A/B offer to 250 randomly chosen customers converts 29. Compute the rate and reconcile it with the 71%. [3]

Exercises 2.3·2.4

2.3 Rewrite “Do people like our plants?” into a researchable question, and state the data that would answer it. [3]

2.3

- ”Of past customers, what share would subscribe at £X within 30 days?”
- Data: a random-sample offer with actual orders counted.
- Any refutable version earns the marks; unfalsifiable earns none.

2.4 An A/B offer to 250 randomly chosen customers converts 29. Compute the rate and reconcile it with the 71%. [3]

2.4

- Rate $= 29/250 = 11.6\%$.
- The intent-behaviour gap again: 71% said, 11.6% did – steer by the 11.6%.

Exercise 2.5

2.5 True or false, one line each: (a) doubling n halves the interval; (b) non-response bias shrinks with sample size; (c) a survey can describe but not prove causation. [3]

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2.5 True or false, one line each: (a) doubling n halves the interval; (b) non-response bias shrinks with sample size; (c) a survey can describe but not prove causation. [3]

2.5

- (a) False – needs 4× the sample (root n).
- (b) False – design error survives any size.
- (c) True – only controlled tests prove causation.