Hiring Funnel Analytics and Selection Rate Review

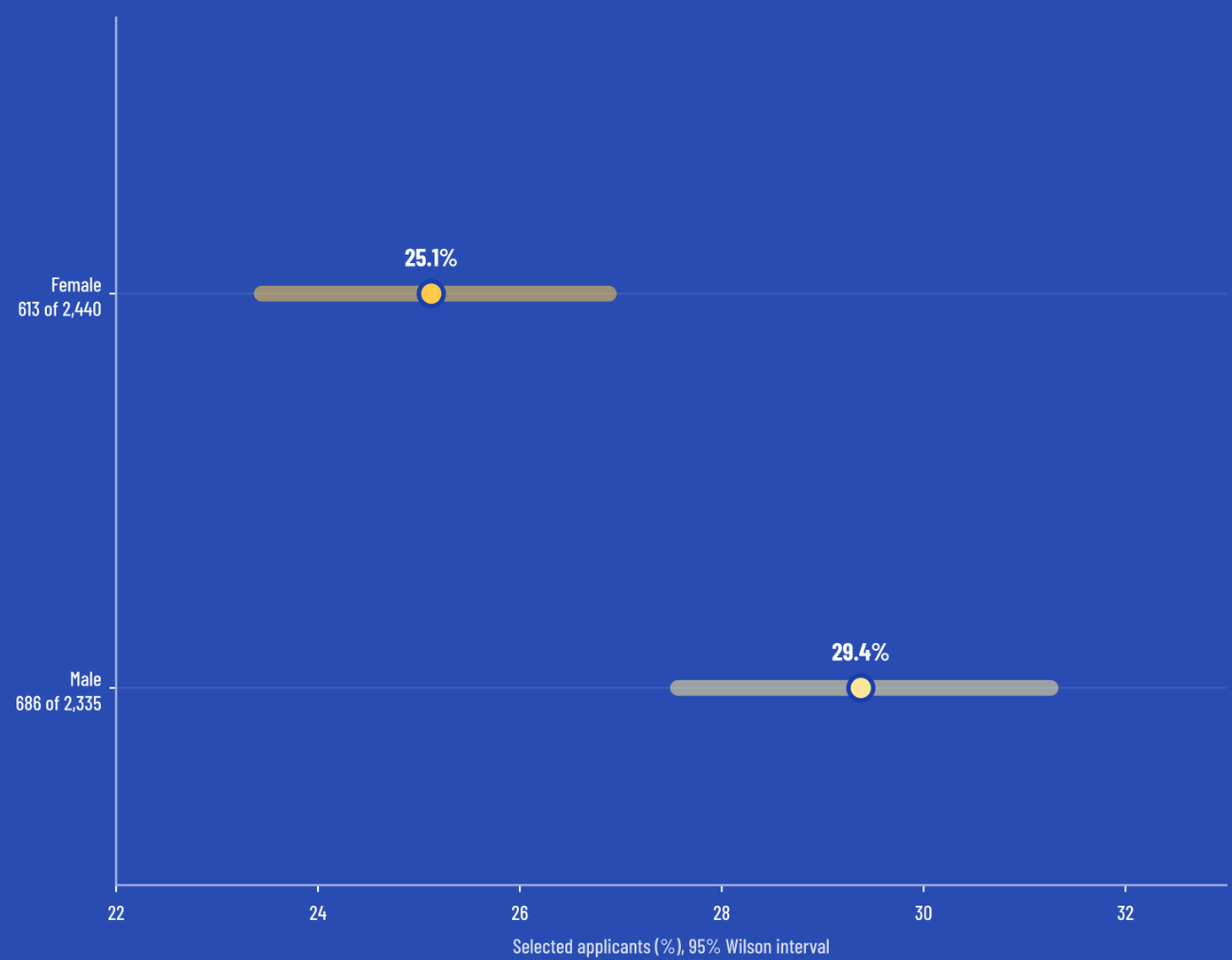
4.3 pts

gap between the male (29.4%) and female (25.1%) selection rates in one constructed hiring round of 5,000 records.

0.855 impact ratio, above the 0.80 screen	**z = 3.30** two-sided p = 0.0010	**104** more female selections to reach parity	**8%** lower-tail area for the 0.80 log-ratio reference

EXHIBIT 1

Selection rate by group



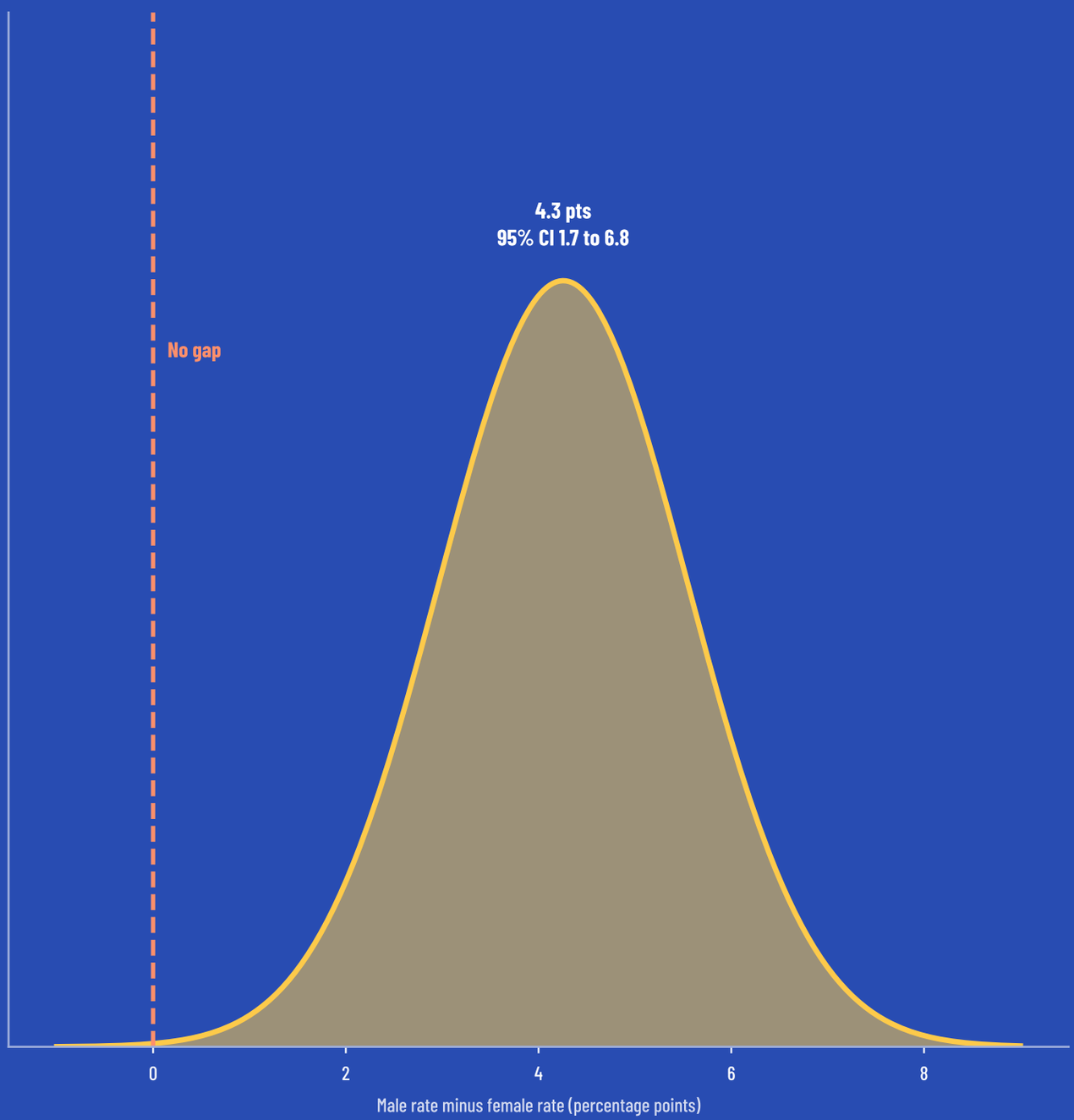
613 of 2,440 female applicants advanced against 686 of 2,335 male applicants. The intervals are separated by 0.7 points.

What the analysis shows

- The gap is real in the statistical sense: 4.3 points, 95% interval 1.7 to 6.8, z = 3.30. The two Wilson intervals do not overlap.
- It also passes the common four-fifths screen. The ratio is 0.855, with a 95% interval of 0.78 to 0.94, so the two standard tests disagree.
- That disagreement is the finding: a large applicant pool makes a moderate gap statistically clear even when the ratio screen is met.
- In counts, parity would have meant 104 more female applicants advancing out of 2,440. At +42 the two-sided gap test would cross below its 5% threshold.
- The 225 records outside the two displayed groups are excluded from every rate here and need their own review.

EXHIBIT 2

The gap, with its uncertainty

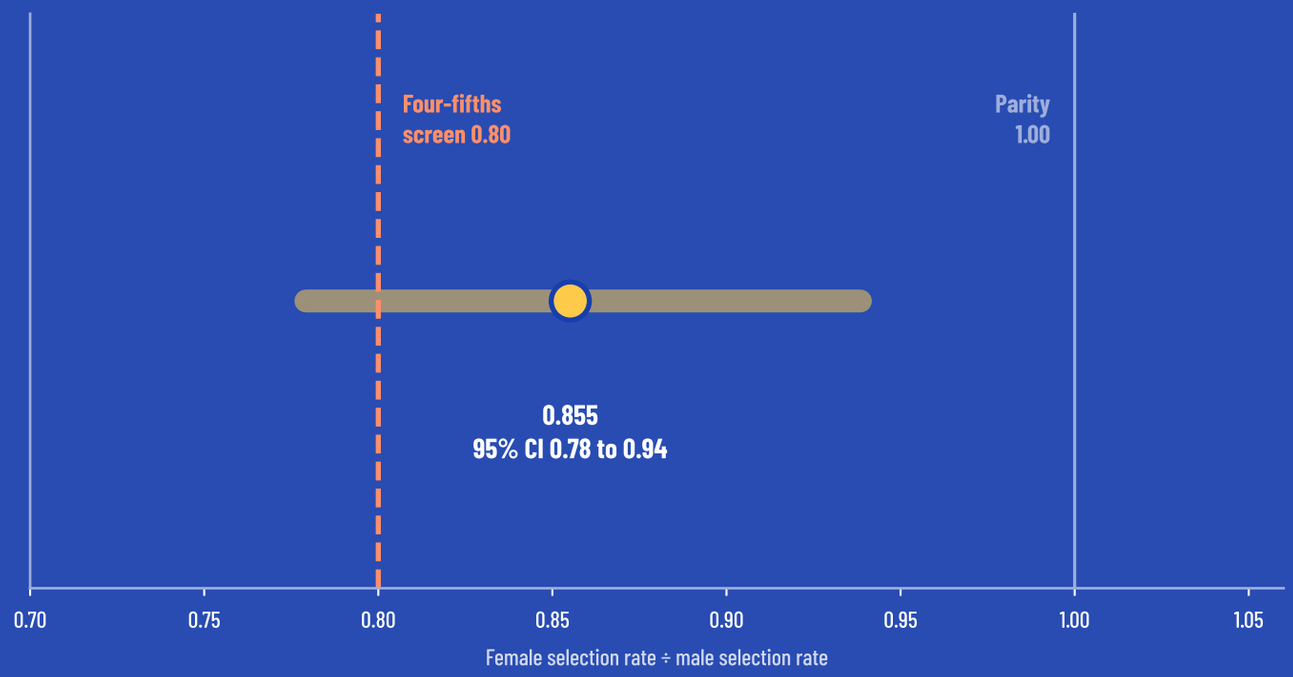


The whole plausible range sits above zero. A gap this size from equal underlying rates would be expected fewer than 1 time in 1,000.

Inside the numbers

EXHIBIT 3

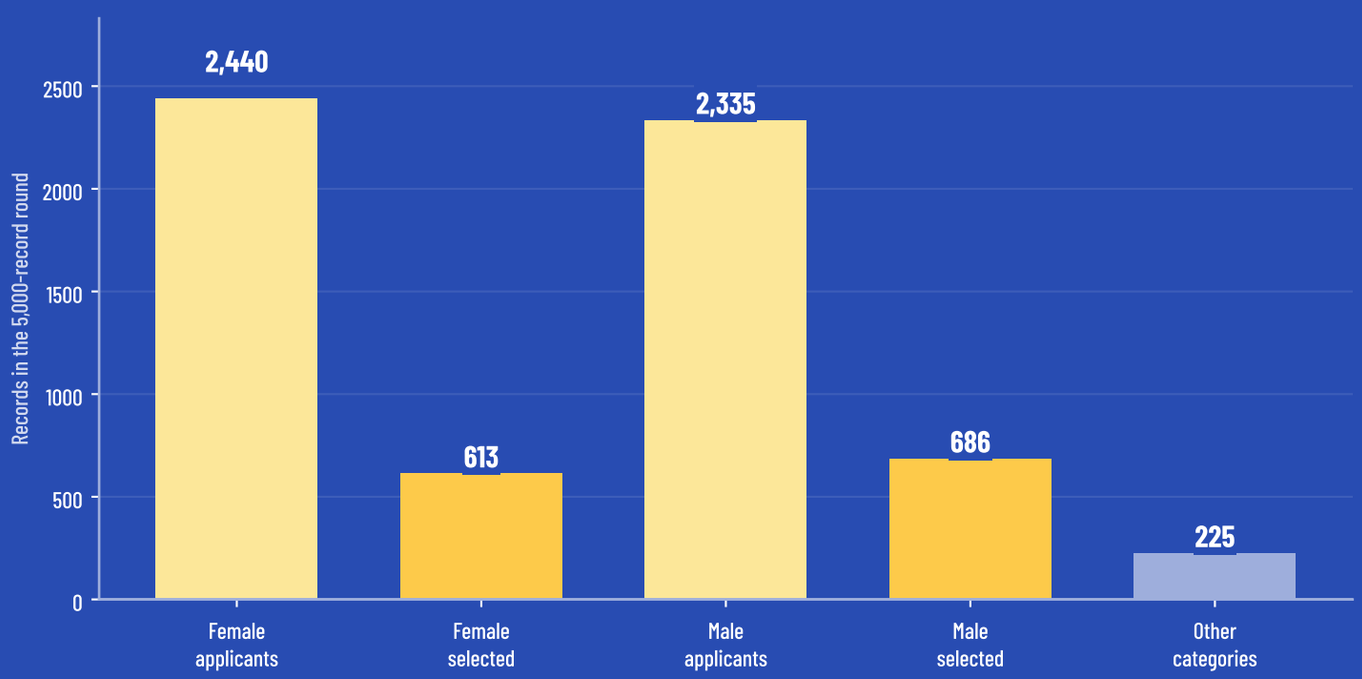
The same data as an impact ratio



The point estimate clears 0.80, but the lower end of the interval dips just below it.

EXHIBIT 4

Denominators behind the rates

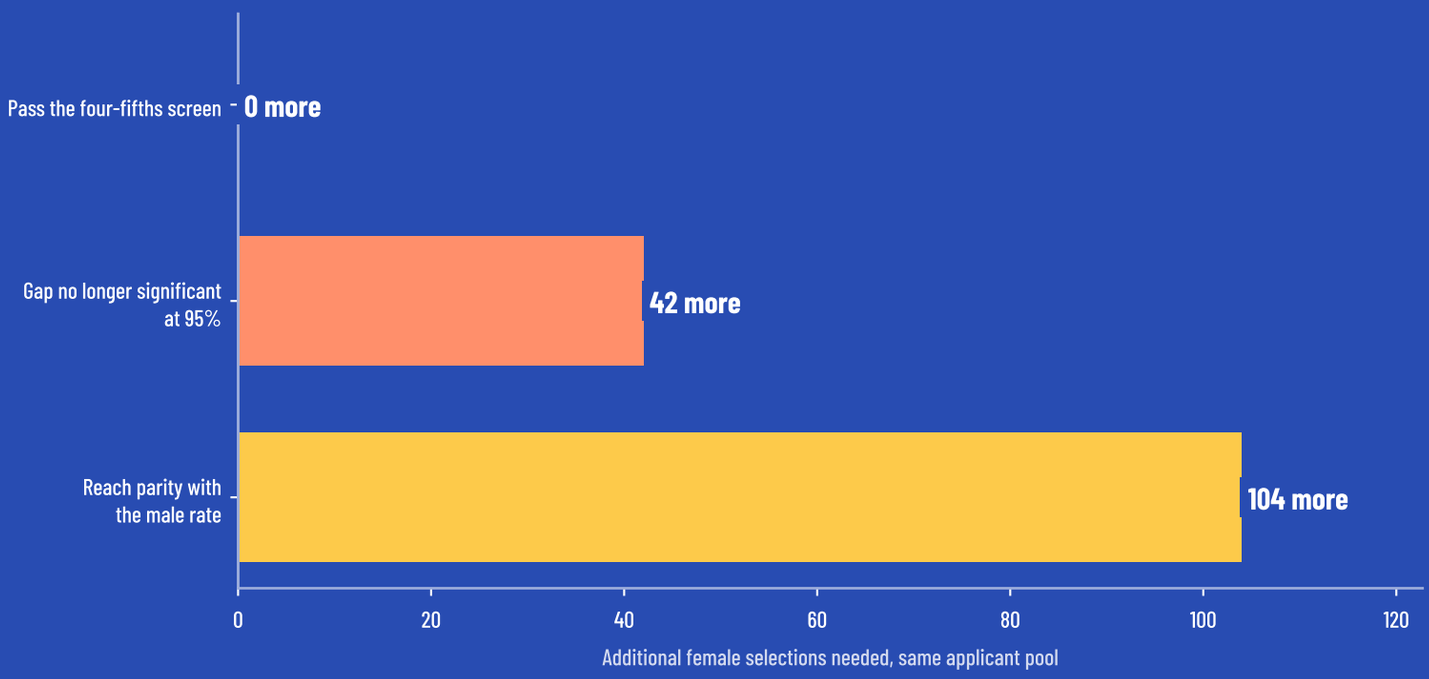


Rates need their counts beside them: 4,775 records in the two displayed groups and 225 elsewhere.

What changes the answer

EXHIBIT 5

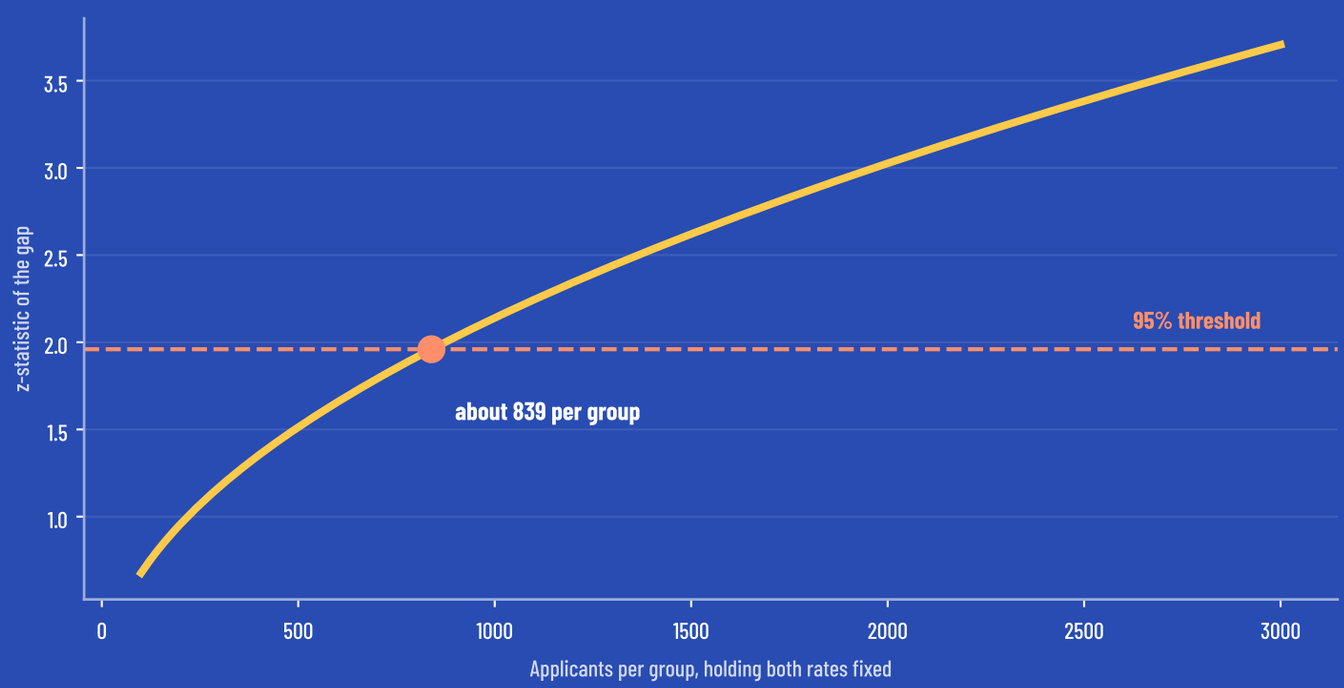
Selections needed to change the conclusion



At +41 the z-statistic is 1.97980; at +42 it falls to 1.94785. The 5% cutoff is 1.95996. Parity requires 104.

EXHIBIT 6

Why sample size drives the test



With these rates the gap becomes significant near 840 applicants per group; this round had about 2,400.

How it was built and how far it goes

RECOMMENDED USE

- Treat the result as a reason to inspect the stage, not as proof of cause. Start with screening criteria applied at this decision.
- Report the difference, the ratio and the counts together; either number alone gives a different impression.
- Review the 225 records in other categories before publishing any group comparison.

METHOD

- Rates are selected ÷ applicants per group; intervals are 95% Wilson.
- Gap test is a two-proportion z-test with unpooled standard error; the ratio interval uses the log method.
- Each hypothetical female selection updates the female rate and its unpooled standard error. The male rate and both denominators stay fixed.

LIMITS

- Constructed benchmark, one hiring round, one decision stage.
- No qualification, role or stage covariates, so nothing here separates process effects from pool differences.
- A statistical screen is not a legal determination.

NUMBERS RECONCILED

Quantity	Value	How it was checked
Female rate	25.1%	613 ÷ 2,440
Male rate	29.4%	686 ÷ 2,335
Gap	4.3 pts	29.38 − 25.12
Impact ratio	0.855	25.12 ÷ 29.38
Displayed records	4,775	2,440 + 2,335
Other categories	225	5,000 − 4,775