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# Lost Pizza Co.

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## Memorandum

To: Lost Pizza Co.

From: Stanalyst

Date: October 1, 2025

Subject: Study design to demonstrate Lost Pizza Co.'s superior "topping value" versus Hideaway Pizza

### Proposed research question:

Does Lost Pizza Co. have a better toppings (grams) per dollar value than Hideaway Pizza? A positive result would claim an advertisement of "More toppings for your money".

### Variables to record (what & how):

1. **Restaurant** — categorical: Lost Pizza Co. or Hideaway Pizza.
2. **Topping (grams)** – numeric: recorded from the menu at time of purchase (including basic taxes if normally shown to customer).
3. **Price (dollars)** - numeric: measured using a calibrated digital kitchen scale. Procedure: purchase pizza, carefully separate and remove toppings (cheese, meats, vegetables — exactly as served), tare scale, and record total topping mass to nearest gram. Keep crust weights out of topping mass.
4. **Pizza diameter (cm)** - numeric: measure to compute area; allows calculation of topping grams per  $\text{cm}^2$  (coverage quality).

Plan: For each company, collect a random sample of  $n = 30$  pizzas (30 Lost Pizza Co., 30 Hideaway Pizza per cell when feasible) across different days and times

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over a 2–3 week window. Keep handling consistent (same staff performing removal/weighing, same scale)

## Summaries:

### Graphical summaries:

- Side-by-side boxplots of *topping grams per dollar* for Lost Pizza Co. and Hideaway Pizza (separate panels by pizza size).
- scatterplots of topping grams vs price with a fitted regression line (overlay companies in color) to visualize value relationship.
- Density plots or histograms for grams per cm<sup>2</sup> to show topping coverage distribution.

### Numerical Summaries:

- Sample mean and standard deviation of grams per rupee (and grams per cm<sup>2</sup>) for each company
- A short table showing mean price, mean topping grams, mean grams/rupee, and sample size by company

## Conclusion:

With a positive result in the test (that is higher toppings values (grams) per dollar) for Lost Pizza Co. than Hideaway Pizza strength of client vs competitor is made. The result data can be further used for marketing advertisements.