



## OVERVIEW

Want to know if things are improving—or getting worse? This module teaches you how to measure change using percentage change and percentage point difference, two tools that help turn raw numbers into clear, meaningful stories. Perfect for tracking progress, spotting trends, and making informed decisions.

### Percent Change

- **Formula:**  $((\text{New Value} - \text{Original Value}) / \text{Original Value}) * 100$
- **Example:** Retention rises from 85% to 88.55% → 4.18% increase.

### Percent Point Difference

- **Definition:** Number of participants/items included in analysis.
- **Why It Matters:**
  - Larger samples increase result accuracy (Law of Large Numbers).
  - Smaller samples may suffice for localized questions; larger populations require bigger samples.
- **Example:** Flipping a coin 3 times vs. 1,000 times (closer to 50/50 with larger trials).

Aspect	Percentage Change	Percentage Points
Focus	Relative growth/decline	Absolute difference between %s
Use Case	Trends over time (e.g., profits)	Direct shifts (eg., voter turnout)

### Common Pitfalls

- **Mixing terms:** 50% → 75% = 25 percentage points (not 25% change; actual change = 50%).
- **Forgetting formulas:** Always divide by original value for percentage change.

## Common Mistakes

- **Confusing the two concepts:**
  - **Example:** A rise from 50% to 75% is a 25 percentage point increase, but a 50% relative increase.
- **Ignoring the original value:**
  - Percentage change requires dividing by the original value; percentage points do not.

## Illustrative Example

- **Scenario:** Team budget contribution increases from 47% to 51%.
- **Percentage Point Difference:**  $51\% - 47\% = 4$  percentage points
- **Percentage Change:**  $((51 - 47) / 47) * 100 = 8.51\%$
- **Notes:** Small percentage point shifts can represent large relative changes.

## Key Takeaways

- **Clarify:** Is it relative change or absolute difference?
- Small % point shifts can mean large relative changes (e.g., 4% points = 8.51% increase from 47% → 51%).
- **Use formulas correctly:** Avoid misrepresenting data.
- **Context matters:** A 10% difference in ice cream preferences  $\neq$  10% difference in cancer survival rates.
- Keeping track of change over time can help:
  - Track business growth
  - Government metrics (e.g, unemployment)
  - Health trends
  - Personal budgets