

## Checkpoint at 30K LinkedIn Followers

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I reached 30K LinkedIn followers recently. This is not a large number relative to the top voices on LinkedIn, but for a niche domain like A/B testing, it's not bad.

I wanted to analyze some of the “best” posts I wrote since I joined LinkedIn in 2003, so I'll use the simple metric of impressions, but also report reactions (e.g., likes), comments, and reposts as secondary metrics:

1. [Large companies with a massive userbase cannot detect tiny changes in A/B tests](#)

728K impressions, 3,122 reactions, 133 comments, 104 reposts.

$$n = \frac{16 \sigma^2}{\delta^2}$$

2. [The church of Normal Distribution \(Hallgrímskirkja cathedral in Iceland\)](#)

449K impressions, 4,243 reactions, 103 comments, 34 reposts.



3. [Is the 8% success rate at Airbnb search implying poor guesses?](#)

277K impressions, 1,150 reactions, 68 comments, 1 repost.



Tim Frietas • Following

Director of PM @ Elastic

7mo •

✓ Following

92% of A/B tests at AirBnB are failures. I've seen this number touted recently as a good thing.

It could be that AirBnB has unusually agile dev, design and data teams who can quickly iterate on concepts and testing and pick the winners.

But if the company you work at today is wrong on 92% of its bets, you should probably ask why you keep making consistently poor guesses on what your users want.

<https://bit.ly/RonnyK30KLinkedInFollowers>

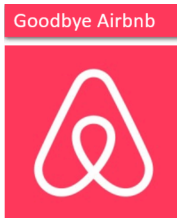
4. [Leaving Microsoft](#)

273K estimated impressions [not reported], 1,537 reactions, 130 comments, 2 reposts.



5. [Goodbye Airbnb](#)

156K estimated impressions [not reported], 876 reactions, 50 comments, 0 reposts.



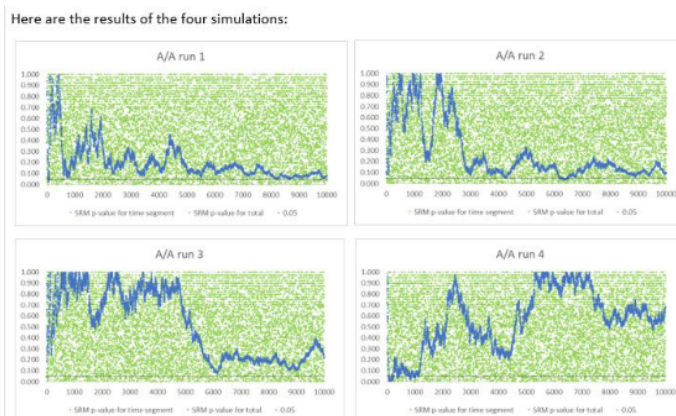
6. [If you're a startup without A/B testing capability, stop tweaking the website](#)

139K impressions, 715 reactions, 49 comments, 30 reposts.

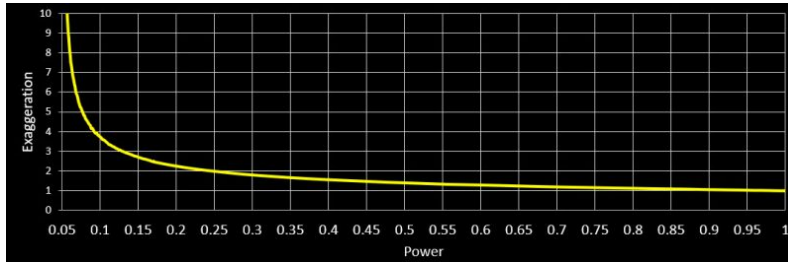


7. [How do p-values vary over time?](#)

113K impressions, 535 reactions, 48 comments, 25 reposts.



8. [Positive A/B test results should always be given a haircut](#)  
112K impressions, 546 reactions, 57 comments, 25 reposts.



9. [Experimentation lifetime achievement award](#)  
98K estimated impressions [not reported], 550 reactions, 91 comments, 1 reposts.



10. [Paper summarizing challenges in A/B testing](#)  
96K impressions, 701 reactions, 19 comments, 24 reposts.

Statistical Challenges in Online Controlled Experiments:

A Review of A/B Testing Methodology

Nicholas Larsen\*, Jonathan Stallrich\*, Srijan Sengupta\*, Alex Deng†

Ron Kohavi, Nathaniel T. Stevens‡

11. [How to lose \\$440 million in 45 minutes. The real story of Knight Capital](#)  
92K impressions, 406 reactions, 26 comments, 15 reposts.



<https://bit.ly/RonnyK30KLinkedInFollowers>

12. [Using the statistical power formula in reverse makes more sense](#)  
90K impressions, 517 reactions, 30 comments, 24 reposts.

Power formula in reverse:

$$\delta = 4\sigma / \sqrt{n}$$

13. [Is cohort analysis useful?](#)  
87K impressions, 472 reactions, 87 comments, 15 reposts.

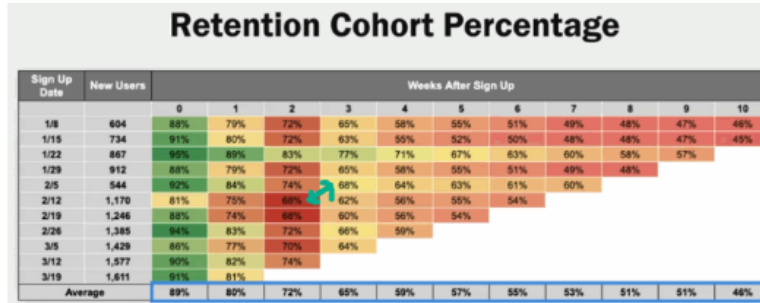


Figure 1: Temporal cohort analysis of retention by week (Fishman 2023)

14. [Paradox of choice can eliminate anxiety, but Amazon increases it](#)  
68K impressions, 388 reactions, 68 comments, 4 reposts.

Choose your Prime delivery option:

- ☐ Friday, Nov. 24  
FREE Prime Delivery
- ☐ Friday, Nov. 24  
\$1.99 - Key Delivery  
Protect your orders with deliveries to your garage.
- ☐ Friday, Nov. 24  
FREE Amazon Day Delivery  
Fewer boxes, fewer trips.   
Some orders may arrive a day early.  
[Change delivery day](#)  
Your preferred day is not available.
- ☒ Friday, Nov. 24  
FREE Amazon Day with Key Delivery  
**In-Garage Delivery on the day you choose.**  
Some orders may arrive a day early.  
[Change delivery day](#)  
Your preferred day is not available.

15. [Best A/B Testing videos](#)  
66K impressions, 446 reactions, 30 comments, 28 reposts.

| Thumbs up/year | Views/year | Thumbs up | Views  | Date      | Name                                                                                      | Speaker                 | Link                                                                    |
|----------------|------------|-----------|--------|-----------|-------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------|
| 1,439          | 42,300     | 2,600     | 76,438 | 2/25/2022 | A/B Testing in Data Science Interviews by a Google Data Scientist   DataInterview         | Dan Lee / DataInterview | <a href="https://youtu.be/DUNk4GP28w">https://youtu.be/DUNk4GP28w</a>   |
| 971            | 66,200     | 380       | 25,919 | 7/27/2023 | The ultimate guide to A/B testing                                                         | Ronny Kohavi            | <a href="https://youtu.be/hEzpiDuYFoE">https://youtu.be/hEzpiDuYFoE</a> |
| 754            | 39,424     | 1,900     | 99,304 | 6/10/2021 | A/B Testing Made Easy: Real-Life Example and Step-by-Step Walkthrough for Data Scientists | Emma Ding               | <a href="https://youtu.be/YuKIN9S8Iys">https://youtu.be/YuKIN9S8Iys</a> |
| 418            | 24,472     | 307       | 17,957 | 3/24/2023 | Ace A/B Testing Interview Question: A Data-driven Approach for Data Scientists            | Emma Ding               | <a href="https://youtu.be/YOuP3mNDQZ0">https://youtu.be/YOuP3mNDQZ0</a> |
| 386            | 13,104     | 395       | 13,418 | 12/8/2022 | How to Calculate the Sample Size                                                          | Dan Lee / DataInterview | <a href="https://youtu.be/KC1mwY7YQUE">https://youtu.be/KC1mwY7YQUE</a> |

16. [Three A/B testing resources: book bibliography, most cited resources, and course references](#)  
64K impressions, 404 reactions, 15 comments, 18 reposts.



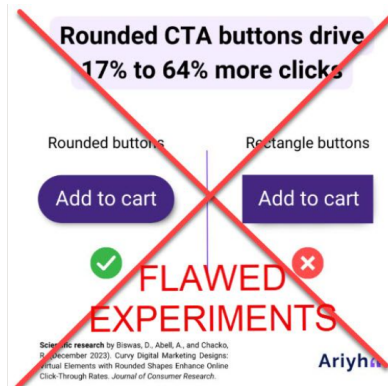
17. [Most cited articles in A/B testing or online controlled experiments](#)

58K impressions, 520 reactions, 27 comments, **33 reposts**.

| Citation count/year | Citation count according to Google Scholar (11/23/2023) | Year (yellow if new this update) | Delta from 6/9/2022 (green if >=50) | Article Title                                                               | Authors                                                          | Google Scholar link                                         | Researchgate Reads (4/20/2023) |
|---------------------|---------------------------------------------------------|----------------------------------|-------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------|
| 61.2                | 912                                                     | 2009                             | 116                                 | Controlled experiments on the web: survey and practical guide               | Ron Kohavi, Roger Longbotham, Dan Sommerfield, Randal Henne      | <a href="https://scholar.google">https://scholar.google</a> | 2,406                          |
| 55.2                | 215                                                     | 2020                             | 139                                 | Trustworthy online controlled experiments: A practical guide to A/B testing | Ron Kohavi, Diane Tang, Ya Xu                                    | <a href="https://scholar.google">https://scholar.google</a> | 57,013                         |
| 53.4                | 101                                                     | 2022                             | 72                                  | Experimentation and Start-up Performance: Evidence from A/B Testing         | Rembrand Koning, Sharique Hasan, Aaron Chatterji                 | <a href="https://scholar.google">https://scholar.google</a> | 12                             |
| 52.8                | 417                                                     | 2016                             | 117                                 | Online Controlled Experiments and A/B Testing                               | Ron Kohavi, Roger Longbotham                                     | <a href="https://scholar.google">https://scholar.google</a> | 29,586                         |
| 49.1                | 93                                                      | 2022                             |                                     | Experimental Design in Two-Sided Platforms: An Analysis of Bias             | Ramesh Johari, Hannah Li, Inessa Liskovich, Gabriel Y. Weintraub | <a href="https://scholar.google">https://scholar.google</a> |                                |

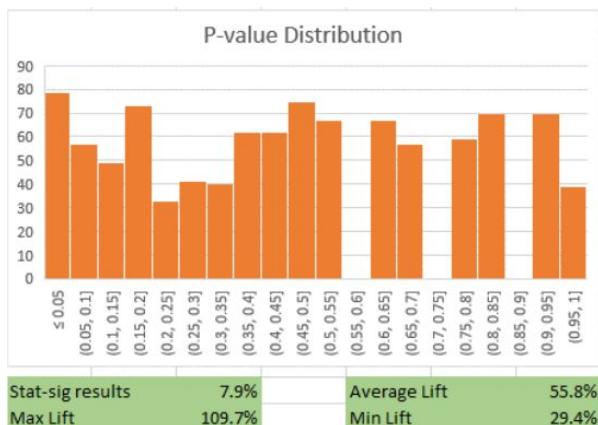
18. [Do elements with rounded shapes enhance click-through rates?](#)

55K impressions, 516 reactions, 64 comments, 27 reposts.



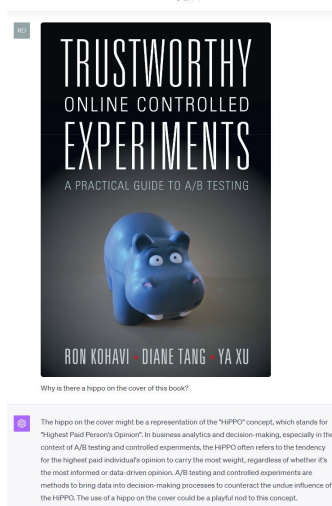
19. [Important graph to show the problem with running low power experiments](#)

53K impressions, 325 reactions, 49 comments, 11 reposts.



20. [Why is there a hippo on the cover of this book?](#)

52K impressions, 518 reactions, 16 comments, 7 reposts.



21. [A/B Testing Intuition Busters](#)

47K impressions, 420 reactions, 10 comments, 16 reposts.

**A/B Testing Intuition Busters**

**Common Misunderstandings in Online Controlled Experiments**

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**ABSTRACT**

A/B tests, or online controlled experiments, are heavily used in industry to evaluate implementations of ideas. While the statistics behind controlled experiments are well documented and some basic pitfalls known, we have observed some seemingly intuitive concepts being touted, including by A/B tool vendors and agencies, which are misleading, often badly so. Our goal is to describe these misunderstandings, the "intuition" behind them, and to explain and bust that intuition with solid statistical reasoning. We provide recommendations that experimentation platform designers can implement to make it harder for experimenters to make these intuitive mistakes.

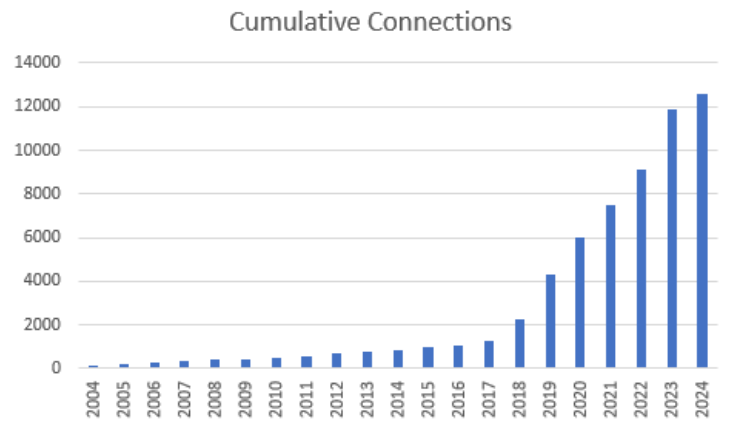
A/B tests, or online controlled experiments (see appendix for references), are heavily used in industry to evaluate implementations of ideas, with the larger companies starting over 100 experiment treatments every business day (Gupta, et al. 2019). While the statistics behind controlled experiments are well documented and some pitfalls were shared (Crook, et al. 2009; Dmitriev, Frasca, et al. 2016; Kohavi, Tang and Xu 2020; Dmitriev, Gupta, et al. 2017), we see many erroneous applications and misunderstanding of the statistics, including in books, papers, and software. The appendix shows the impact of these misunderstood concepts in courts and legislation.

The concepts we share appear intuitive yet hide unexpected

Note that I haven't spent time optimizing my posts and I ignore recommendations, such as "never put a URL in your post," which Ya Xu at LinkedIn says is a false rumor, yet I keep hearing it.

Here are some observations:

1. Predicting the impressions and reactions is hard. I would not have guessed the first three.
2. The "leaving Microsoft" post was in 2019, when I had 4,300 connections, about one third of today. LinkedIn export does allow getting connections (but not followers; I'd love to know if it's possible to get that); here's the graph of connections over time.



3. Reposts don't correlate well with impressions and reactions. For personal posts like leaving company X, that's expected.
4. I fed the 190-page PDF with all my posts to ChatGPT 4 and wrote "These are posts by me. Which are the most liked?" It responded with

The posts with the most likes from your document are:

1. A post with 728,675 impressions and 3,123 likes related to A/B testing experiences at large companies.
2. A post about principles of experimentation with 11,705 likes.

The first line is good. The second is way off.

I then wrote "What are the top 10 posts in terms of impressions?" It hallucinated badly:

1. "Nice summary by Jakub Linowski" - 96,837 impressions.
2. "Does offline accuracy predict online effectiveness?" - 92,087 impressions.
3. "Best A/B Testing Talks" - 66,337 impressions.
4. "Impressive \$420M valuation for a promising startup" - 62,109 impressions.
5. "The Surprising Truth about Amazon and Booking" - 36,312 impressions.
6. "Trustworthy Online Controlled Experiments book sales" - 36,976 impressions.
7. "JavaScript errors as guardrail metrics" - 33,239 impressions.
8. "Our paper is the most viewed in The American Statistician" - 28,228 impressions.
9. "The silver lining in market downturn: 529 plans" - 19,850 impressions.
10. "Investing in your descendants" - 19,850 impressions.

<https://bit.ly/RonnyK30KLinkedInFollowers>

Any other interesting patterns?

4/20/2024: Yesha Y. Sivan suggested adding images, which I think is a great idea and have added them. I definitely need to do that for <https://bit.ly/ABClassRKRefsFunny>, which I never got to doing 😊