

# Data-Driven Startups

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Lean Startup Circle Boston  
Cambridge, MA, July 2010



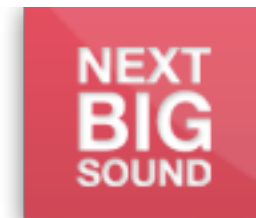
“In God we trust; all others must bring data.”

- W. Edwards Deming



# Who am I

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Companies

Advisor

Investor



David Cancel - @dcancel

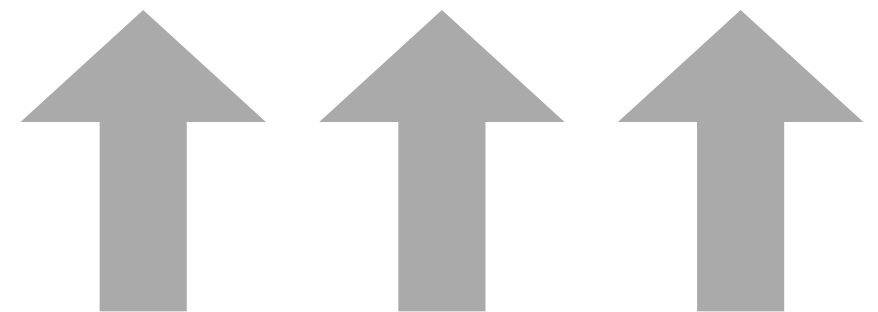
## The Problem:

98% of the people who visit your site, **leave** never to return.



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98% of the people who visit your site, **leave** never to return.





We love making  
something from nothing.

Yes, we're hiring.



[David Cancel](#) - @dcancel



Talking, Reading and  
Dreaming are Worthless

Get it done.



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# #JFDI



# #JFDI

Just Fucking Do It.



# #JFDI

Just Fucking Do It.

Please.



Lean Startup? Customer Development?  
Who cares...



It can all be summarized into **one** sentence.



Does anyone **give a shit** about your dumb idea?



There are **NO** repeatable patterns for startup success. **None.** Stop looking for one.



Do I have your **attention** now. ;-)



# Buy this book

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- ★ This is the best startup book I've ever read.
- ★ I personally own two copies.
- ★ Required reading for startup engineers.
- ★ You can find it on [Lulu.com](https://lulu.com)



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# Startup Lessons Learned

## Season One

Eric Ries

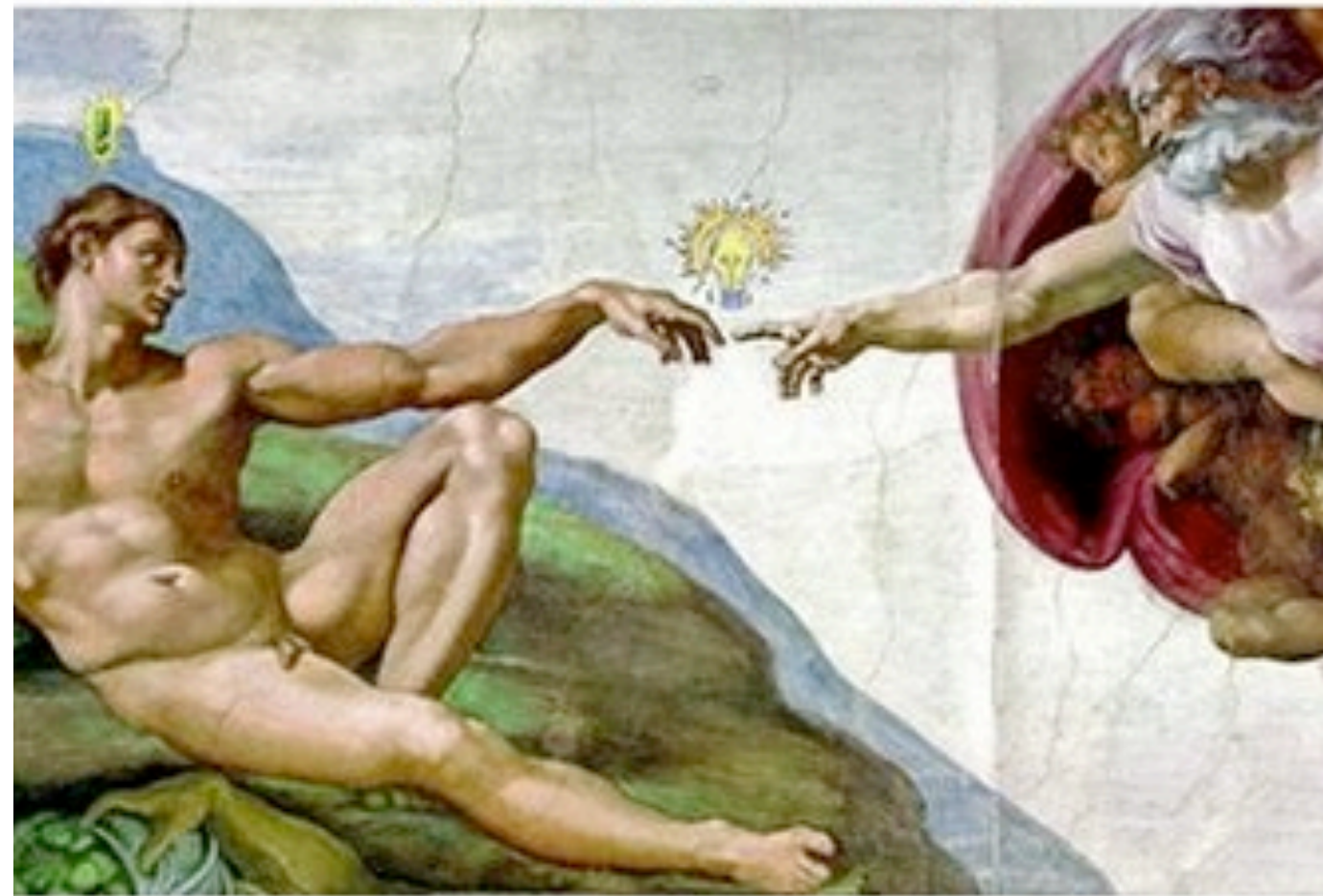
And this one too.

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- ★ This is more of a “manual” than a “book”.
- ★ Good for everyone on your team to read.
- ★ If people **care about your product** read this to learn how to determine if you can turn your hobby into a **business**.
- ★ You can find this on Amazon.

# The Four Steps to the Epiphany

**Successful Strategies for Products that Win**



**Steven Gary Blank**



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But remember that you will not find any “secrets” in those books. Stop looking for one.  
Go solve a problem.



Ok enough ranting.



Time to talk **data**.



$$\nabla^2 \psi + \frac{2\pi m}{h^2} (W \pm x \cdot y \cdot z) \psi = 0$$

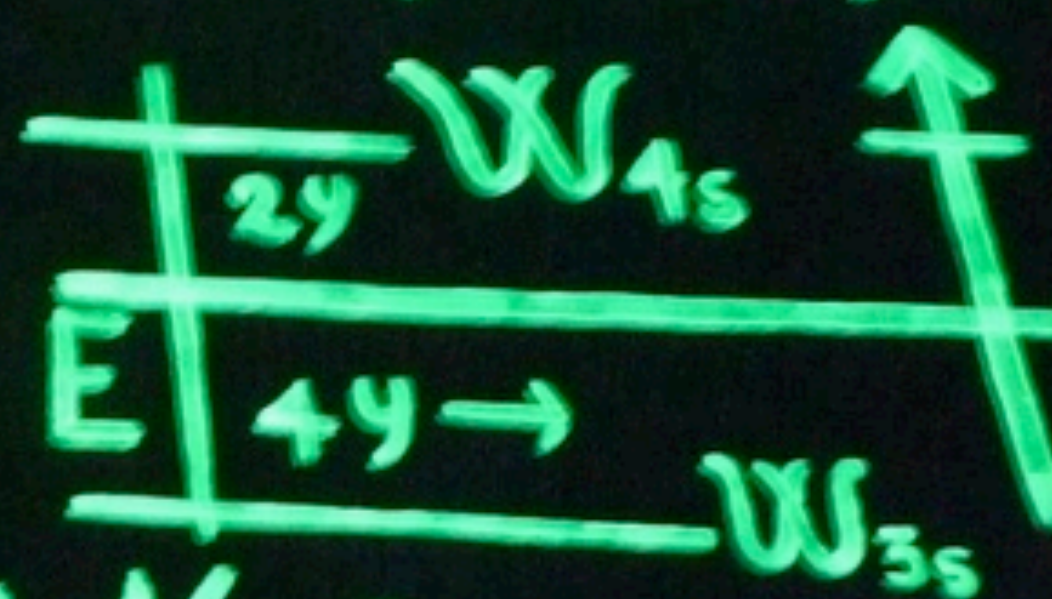
$$\lambda = h T \lambda \quad (10-167)$$

$$= h \lambda \quad n_{H^1} = 2(10)$$

$$\Delta = V(x, y, z) i \hbar \frac{\partial}{\partial t}$$

$$\psi(x, y, z, t) = 0$$

$$\tan(\epsilon_0^2 - \epsilon_w^2)^{1/2} =$$



$$4s^{1/2} - 2$$

$$3d^{3/2} - 4$$

$$2g^{1/2}$$

$$3d^{5/2}$$

$$1i^{1/2}$$

Optimize your startup for **learning** by creating a data-driven framework.



Analytics & A/B Testing are also **not** the answer.



Use quantitative & qualitative data  
to test **YOUR** assumptions.



A/B Testing. Multivariate Testing. Huh?



Multivariate Testing is **Useless**.



You are way too small to matter.



The point of testing is to prove or disprove assumptions **quickly**.



Multivariate testing leads to a non-gratifying experience because it takes **too long**.

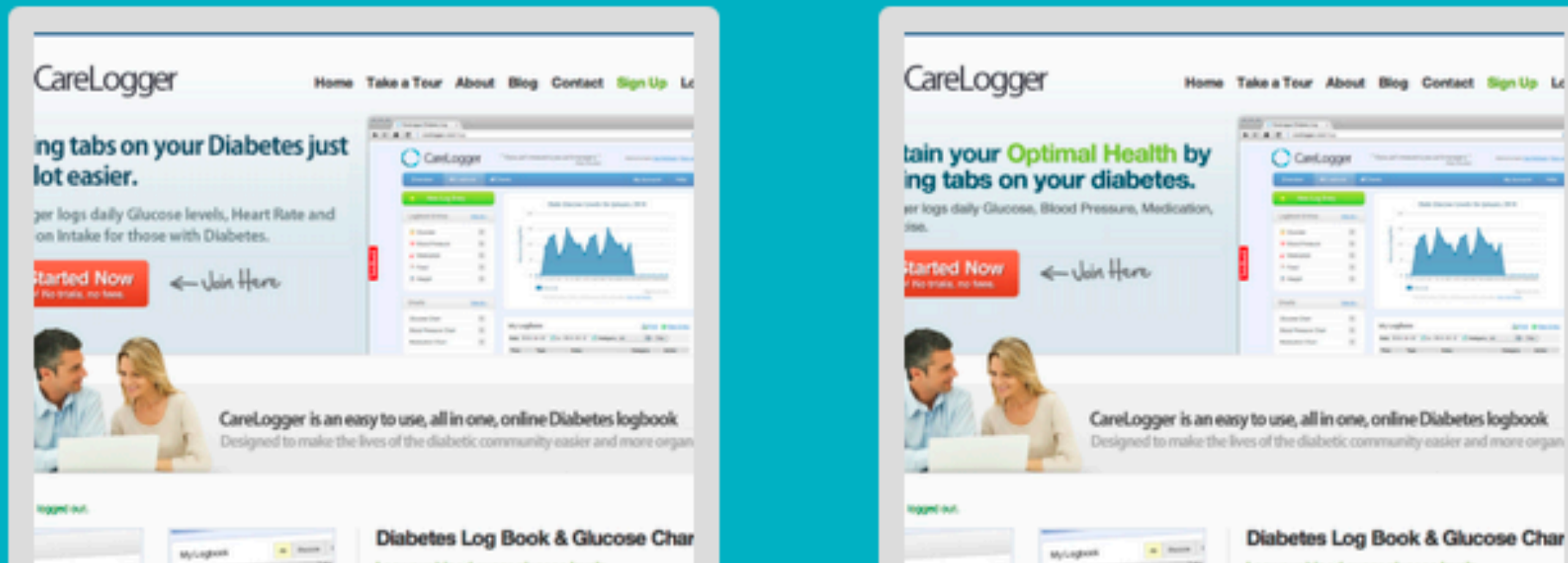


The **vast** majority of sites should only use A/B testing. This means **you**.



Featured A/B Test:

## CareLogger: 32.2% improvement on homepage page



### About ABtests.com

Our goal is simple: to help test their web sites/applications and share that knowledge with making everyone smarter in the process.

Here are some things you can do here:

1. View & learn from other [test results](#).
2. [Upload your own test results](#) and share with colleagues or friends.
3. Follow us on Twitter [here](#) for a firehose of A/B and multivariate testing news.

Shameless Plug:  
ABTests.com

Learn by example



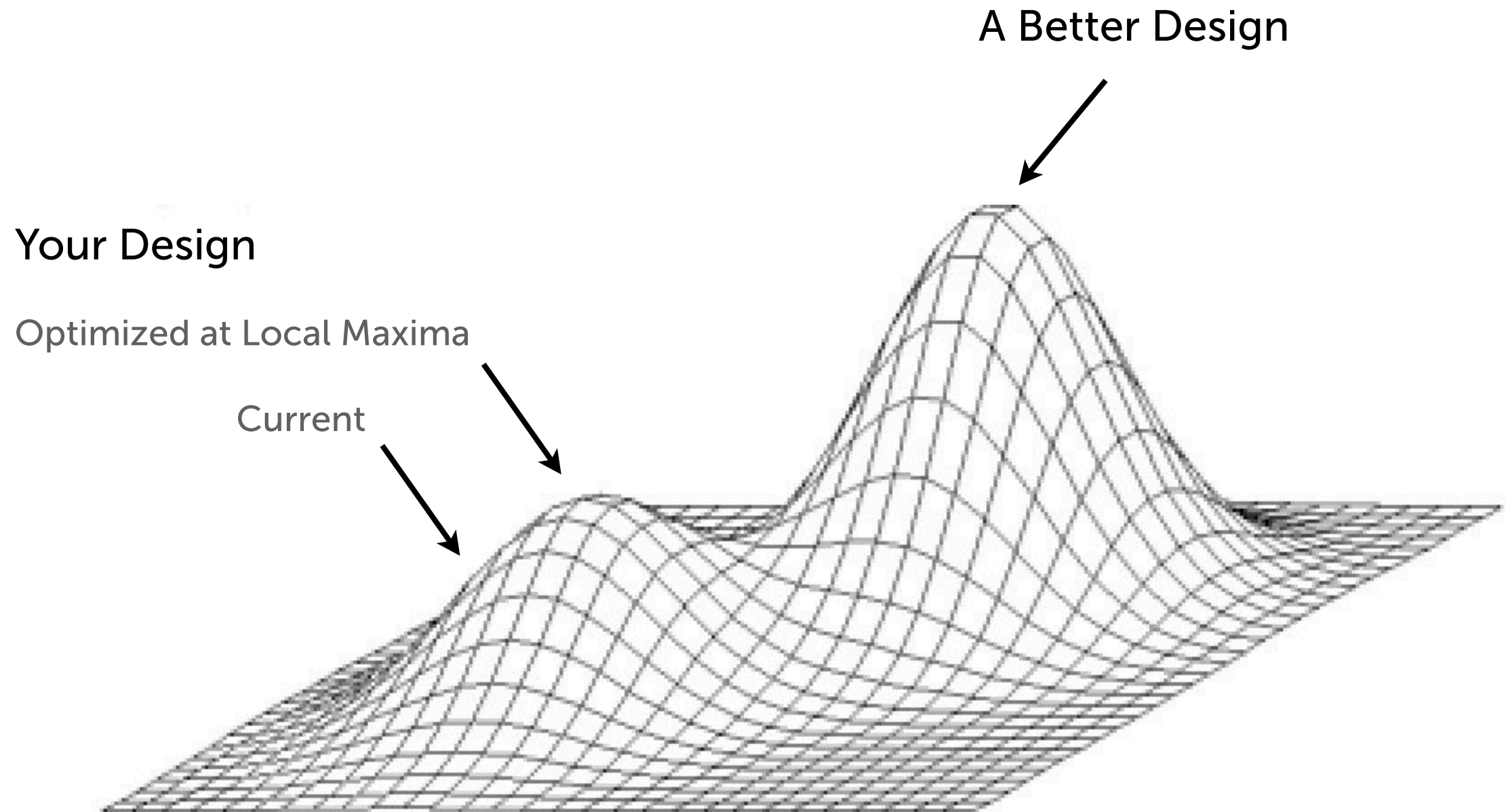
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**A**lways **B**e **T**esting Just Don't be **Stupid**.



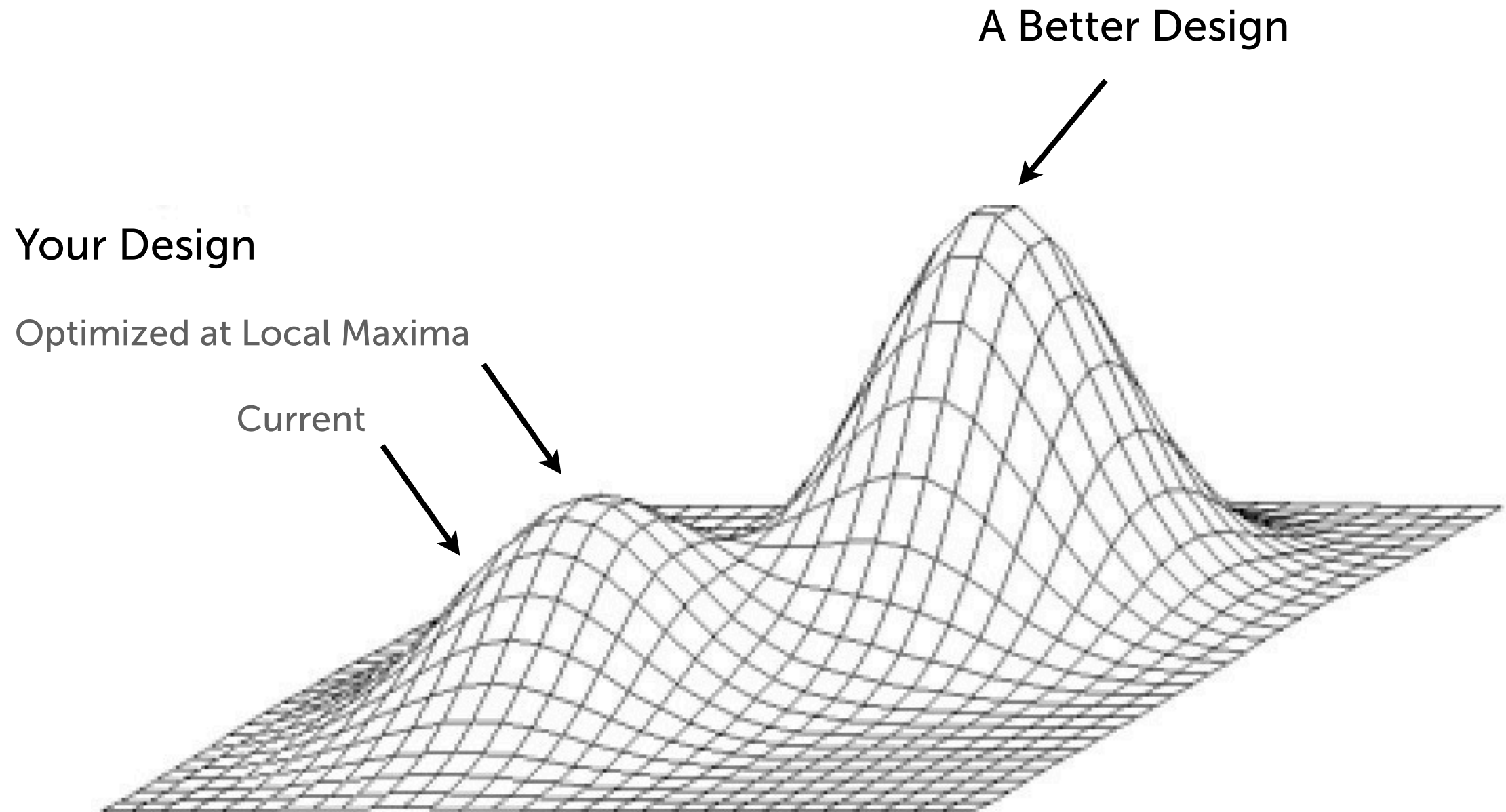
# The Local Maxima Problem

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# The Local Maxima Problem

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I stole this slide from Joshua Porter - @bokardo



“Design is never done”

- Joshua Porter



Optimize your startup for **learning** not data.



# The 3 Steps to Data-Driven Startup Enlightenment



# Data-Driven Startup Checklist

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- ★ Operating Dashboard
- ★ Conversion Funnel Analysis
- ★ Cohort Analysis



Skip the fancy shit and use Google Spreadsheet.  
Ghettofabulous.



# Step 1: The Operating Dashboard.



A **single** place for your **entire** team  
to see where you **suck** the most.



|                             | July 2010 | Month over month growth |  |                        | July 2010 | Mo |
|-----------------------------|-----------|-------------------------|--|------------------------|-----------|----|
| Customers[1]                | 323       | 52%                     |  | Churn                  | 0         |    |
| Website Visitors<br>[2]     | 7346      | 48%                     |  | > 10 visits per mo.    | 145       |    |
| Registrations[3]            | 249       | 48%                     |  | Avg Session Length     | 5:01:00   |    |
| Did Key Activity[4]         | 148       | 48%                     |  | 20% email open rate    | 50%       |    |
| Purchased[5]                | 31        | 48%                     |  | Email unsubscribe rate | 0.01%     |    |
| Referrals[6]                | 10        | 100%                    |  |                        |           |    |
| Average Selling<br>Price[7] | \$452     | 10%                     |  |                        |           |    |
|                             |           |                         |  |                        | Fictional |    |

Company-wide  
dashboard

Everyone! Including interns.



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Every initiative has to map  
to **positive** changes in these numbers.



**Kill** all features that don't **improve**  
your operating metrics.



Only move to the second step after you've  
**mastered** the Operating Dashboard.



## Step 2: Conversion Funnels



Metrics are fun, but **Funnels** kick ass.





Fancy

Forget pretty visualizations



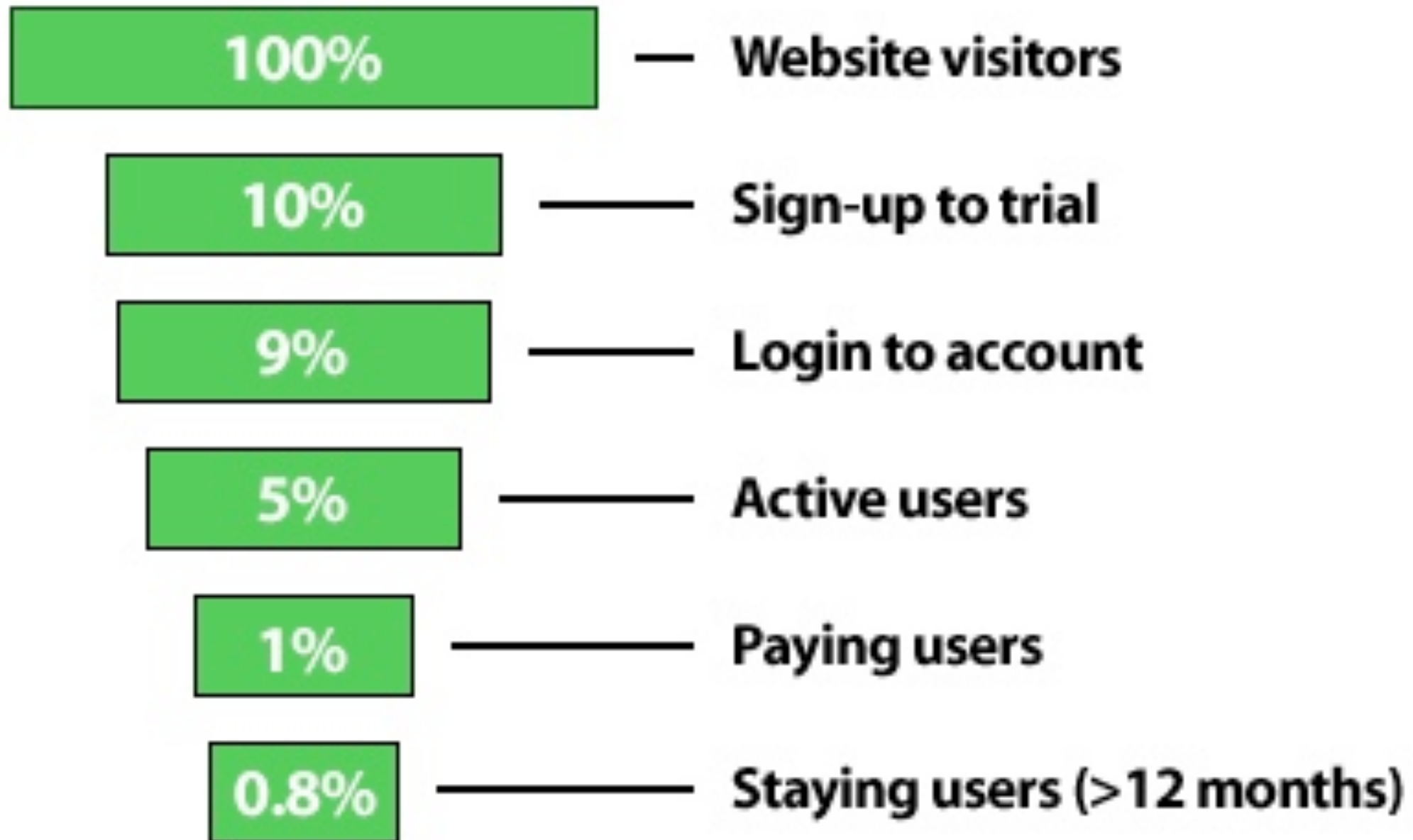
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Pretty

Wasted time





Keep it ugly & raw

Do this tomorrow morning.



Monitor your funnel **weekly** to see how changes are impacting your business.



If you aren't doing this you are implementing lots of **useless** features.



Checkout my friends at [KissMetrics.com](https://KissMetrics.com) to  
capture your funnel level data.



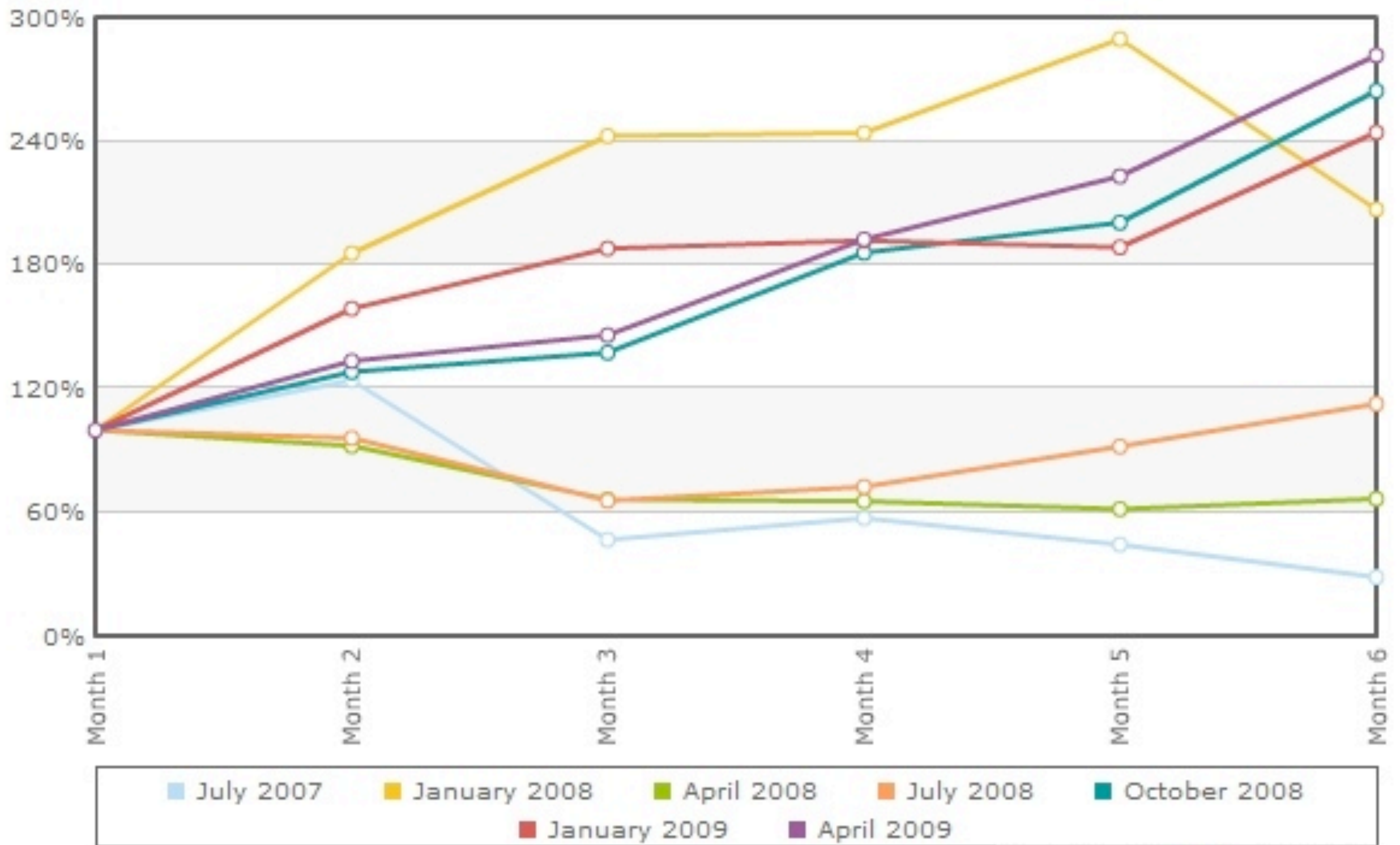
# Step 3: Cohort Analysis



This is the “shot caller” of all analyses. Respect.



Twitter Cohort Analysis (Tweet Activity)



## Cohort Analysis

by Fred Wilson ([post](#))



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Without a cohort analysis you are flying blind.



Is your **churn** going up or down?



You don't have a clue until you've  
done a cohort analysis.



Time for some more ranting.



Data Visualizations are a Waste of Time.

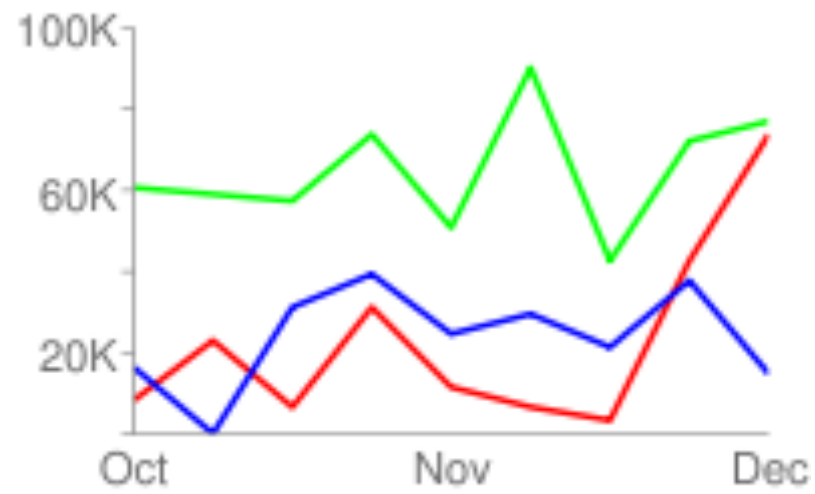


Don't use **anything** except for these 3 charts.



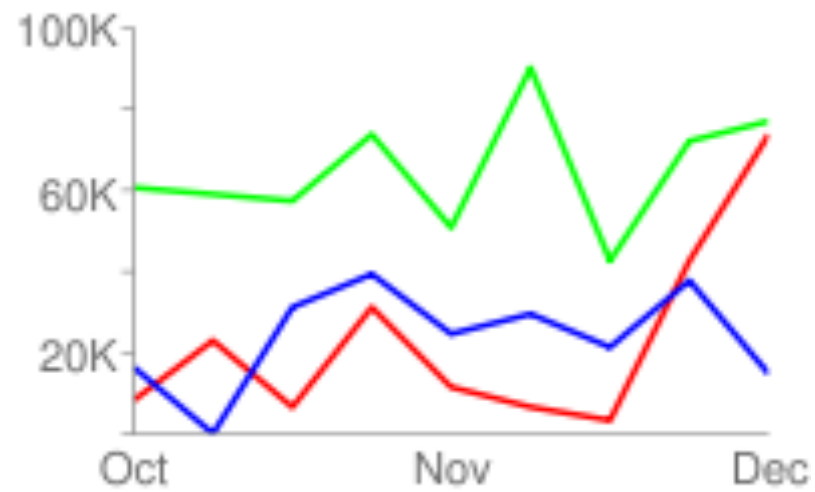
# Frequency

80%



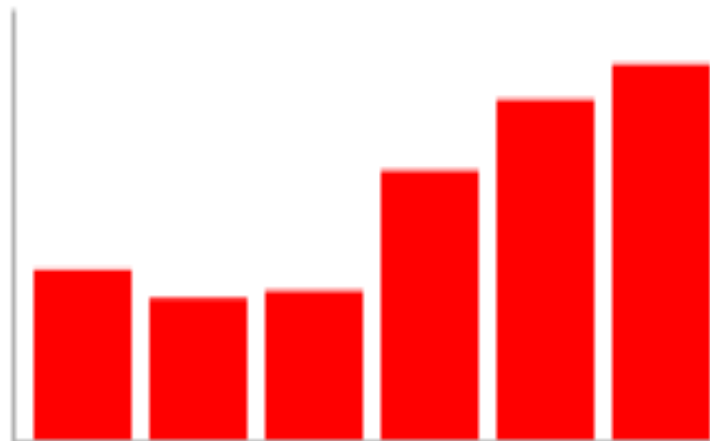
# Frequency

80%



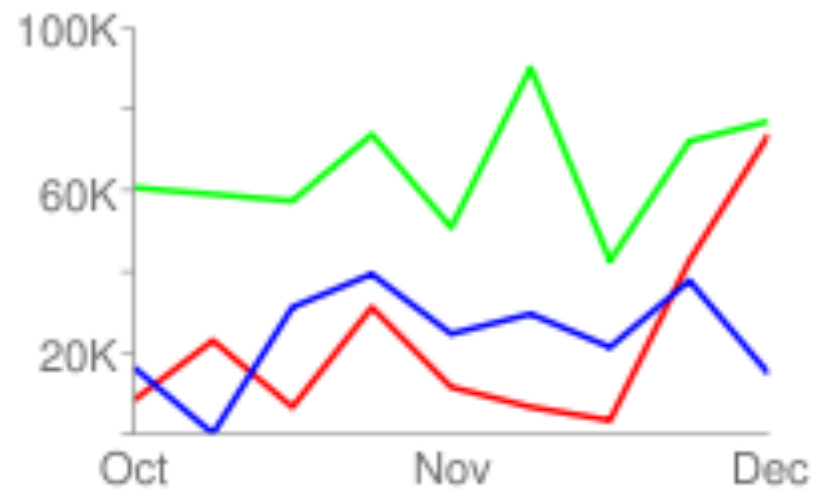
Site visitors by month  
January to July

15%



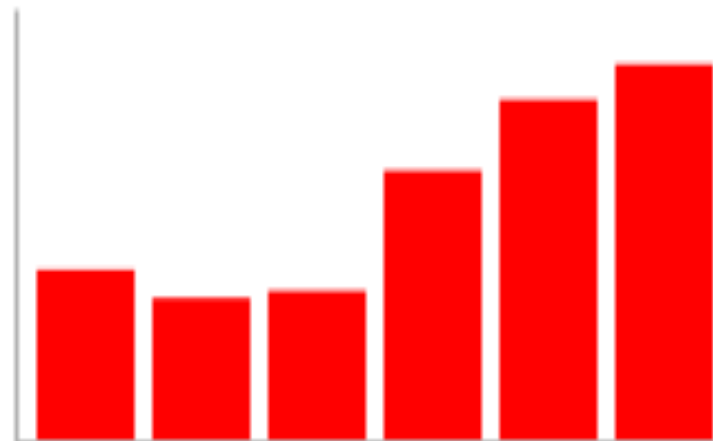
# Frequency

80%

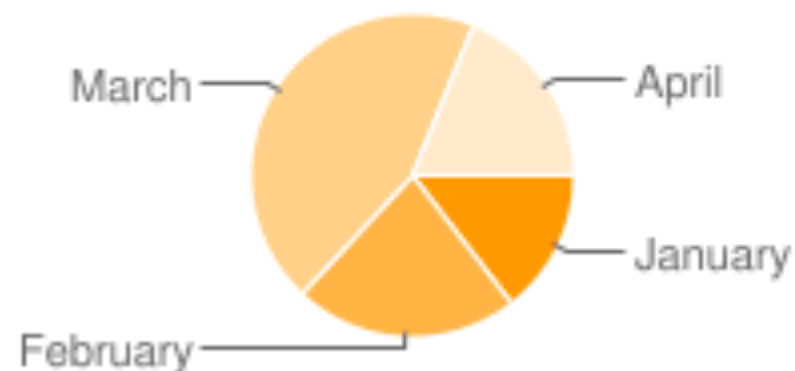


Site visitors by month  
January to July

15%



5%



Focus on your business. **Not** data.



This is usually when I get some “data” questions.



# Things **clueless** people ask

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- ★ What type of algorithms do you use?
- ★ What metrics should I use?
- ★ Anything related to a regression analysis.
- ★ Anything related to data visualization.



No one cares how **smart** you are  
except for your mom.



Only **one** thing matters.



Does anyone **give a shit** about your dumb idea?



# Thank You!

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