CoolaData

The 5 Cs

ANALYTICS PITFALLS

Analytics is power.

Yet, numbers can baffle; they sometime alarm in vain, or reassure for the wrong reasons. A sole metric - good or bad - doesn't tell the whole story.

Here are 5 typical pitfalls one should never overlook when analyzing data:

01 CONFIRMATION BIAS

Churn is lower than it was last month and that's awesome.

We assume churn is declining due to continuous efforts to improve our product, especially that one new feature we added last month.

To begin with, our hypothesis was that improving product usability would increase retention and decrease churn - it's only reasonable, right? Well, we could happily confirm our prejudice, or we could perform A/B tests. Testing may reveal that the actual reason for lower churn is this month's lower prices.

02 COMPETITION

A boost in new traffic acquisition might dazzle us.

What is the cause of this boost? One thing that we should always keep an eye on is our competition.

Did competitors raise prices? Is our major competitor in trouble, causing its customer to desert, irrespective to our marketing efforts? We risk missing the bigger picture when drawing conclusions from a sole metric. Competitive performance is a significant component and must always be on our radar.

03-05

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03 CANNIBALIZATION

A certain product is new. We lower prices to penetrate the market and it's doing well.

But the bottom line does not project the success we were hoping for, because the climb in sales came at the expense of another product.

In order to get a more accurate bottom line, profit generated from the new product must take the loss of other earnings into account. It is perfectly okay to highlight a certain product and discount prices, but don't forget to consider its impact on your other products and features.

04 CONTEXT (LACK OF)

We're enjoying a boost in our site's daily visits.

Per se, it is a good sign, but it doesn't tell us enough. In fact, it could even be misleading. We cannot ignore the expenses that generated this lift, like ad spend, special discounts and other campaign resources.

What if we're targeting the wrong people and ROI is negative? In other words, if our bottom line is a loss of money then the fact that we drastically increased traffic is not as compelling. For our insights to be valuable, we must unify data and analyze metrics in the right context.

05 CAUSATION AND NOT CORRELATION

The average time spent in-app (session length) is higher and sales are increasing.

Is the rise in sales due to the longer time spent in-app? Maybe. Are longer sessions good for us? Maybe. But maybe it's due to a substantial raise in ad expenditure, which means our conversion rate could be worse and long sessions are due to other reasons, like difficulties with usability. We identified a positive covariance (...yet another C, while we're at it), which indicates both measurements moved in the same direction.

Correlation tells us the degree to which they move together and causation is what we're actually seeking. We must be able to isolate the cause, not only to get a reliable projection of reality, but also to be able to do something about it.