Experimenting

Lessons from Psychology and Marketing

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Experiments: practical advice

Catherine Tucker and Anja Lambrecht (2016), A Guide on how to conduct field experiments in Marketing, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2630209

Test the cause-effect relationship in the field
- Maximize external valditiy

Test causal mechanisms in the lab / online
- Maximize internal valditiy

Crisis in Behavioral Sciences

2005

    Ioannidis: Why Most Published Resaerch Findings are False. *PLoS Medicine*

2011

    Simmons, Nelson, Simonsohn: False-Positive Psychology : Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as significant. *Psychological Science*

2012

    Leslie, Loewenstein, Prelec: Measuring the Prevalence of Questionable Research Practices With Incentives for Truth Telling. *Psychological Science*

Data Fraud

    Mark Hauser, Harvard Psych
    Diederick Stapel, Tillburg
    Dirk Smeesters, Rotterdam Erasmus
    Michael LaCour, Stanford

Main Problems identified

P-hacking

Garden of forking paths

File-drawer

Outright data fraud

Proposed Solutions

Pre-registration
- Open Science Framework (https://osf.io/)
- As predicted (https://aspredicted.org/)

Larger samples
- Because effect sizes are likely overestimated, use orginial N * 2.5 for replications (see Simonsohn 2015, *Psychological Science*)

Direct, independent replications (that are pre-registered!)

Open access to stimulus material, code, data
- Open Science Framework (https://osf.io/)
- Dropbox (for how to safe websites from being erased, see http://datacolada.org/34)

Other Suggestions

How to detect p-hacking & address the file-drawer
- http://www.p-curve.com/

Online Recruitment Sources
- Amazon's Mechanical Turk (https://www.mturk.com/mturk/welcome)
- Prolific Academic (https://www.prolific.ac/)

Interesting Blogs
- Data Collada (Simonsohn, Nelson, Simmons: http://datacolada.org/)
- Statistical Modelling, Causal Inference, and Social Science (Andrew Gelman: http://andrewgelman.com/)