

Zero variable cost experiments and MusicLab

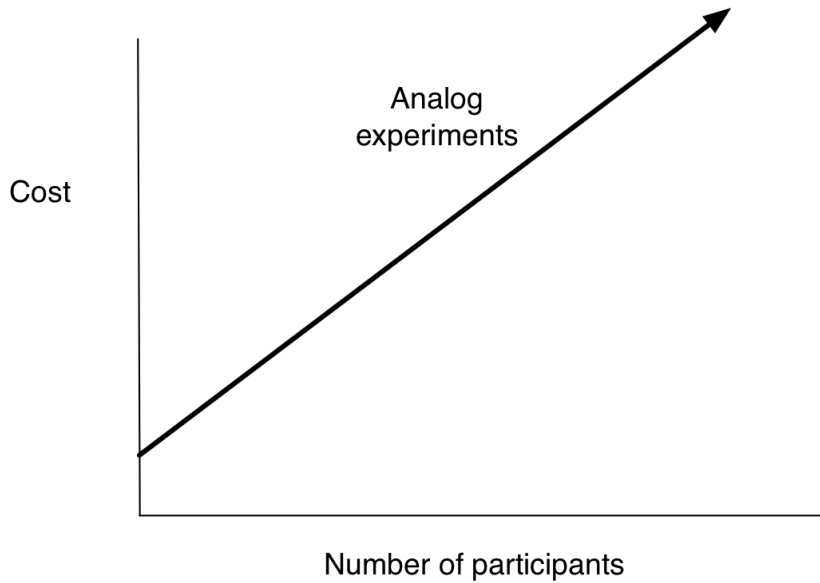
Matthew J. Salganik
Department of Sociology
Princeton University

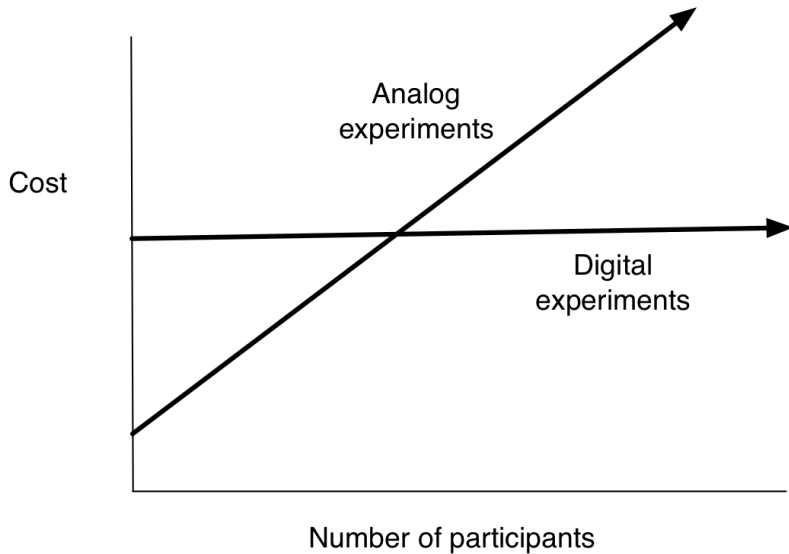
Summer Institutes in Computational Social Science
June 22, 2019

The Summer Institutes in Computational Social Science is supported by grants from the Russell Sage Foundation and the Alfred P. Sloan Foundation.



Experiments at scale





Main sources of variable costs:

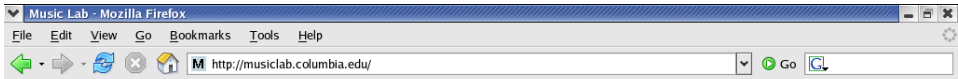
- ▶ staff time
- ▶ participant payment

Main sources of variable costs:

- ▶ staff time
- ▶ participant payment

Solutions:

- ▶ Automation (your experiments should run while you sleep)
- ▶ Design enjoyable experiments



	# of down loads	[Help]	[Log off]	# of down loads	# of down loads
HARTSFIELD: "enough is enough"	20	GO MOREDCAI: "it does what its told"	12	UNDO: "while the world passes"	24
DEEP ENOUGH TO DIE: "for the sky"	17	PARKER THEORY: "she said"	47	UP FOR NOTHING: "in sight of"	13
THE THRIFT SYNDICATE: "2003 a tragedy"	20	MISS OCTOBER: "pink agression"	27	SILVERFOX: "gnaw"	17
THE BROKEN PROMISE: "the end in friend"	19	POST BREAK TRAGEDY: "florece"	14	STRANGER: "one drop"	10
THIS NEW DAWN: "the belief above the answer"	12	FORTHFADING: "fear"	24	FAR FROM KNOWN: "route 9"	18
NOONER AT NINE: "walk away"	6	THE CALEFACTION: "trapped in an orange peel"	20	STUNT MONKEY: "inside out"	46
MORAL HAZARD: "waste of my life"	8	52METRO: "lockdown"	17	DANTE: "lifes mystery"	14
NOT FOR SCHOLARS: "as seasons change"	27	SIMPLY WAITING: "went with the count"	16	FADING THROUGH: "wish me luck"	10
SECRETARY: "keep your eyes on the ballistics"	5	STAR CLIMBER: "tell me"	38	UNKNOWN CITIZENS: "falling over"	34
ART OF KANLY: "seductive intro, melodic breakdown"	10	THE FASTLANE: "til death do us part (i dont)"	31	BY NOVEMBER: "if i could take you"	20
HYDRAULIC SANDWICH: "separation anxiety"	20	A BLINDING SILENCE: "miseries and miracles"	17	DRAWN IN THE SKY: "tap the ride"	12
EMBER SKY: "this upcoming winter"	25	SUM RANA: "the bolshevik boogie"	15	SELSIUS: "stars of the city"	22
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RYAN ESSMAKER: "detour_(be still)"	14	UP FALLS DOWN: "a brighter burning star"	11	EVAN GOLD: "robert downey jr"	10
BEERBONG: "father to son"	12	SUMMERSWASTED: "a plan behind destruction"	17	BENEFIT OF A DOUBT: "run away"	38
HALL OF FAME: "best mistakes"	19	SILENT FILM: "all i have to say"	61	SHIPWRECK UNION: "out of the woods"	16

00:21 shipwreck union - out of the woods

volume

|| ▶

Please rate this song.
You don't need to wait until it's finished

☐ ★ ★ ★ ★ ★ i love it

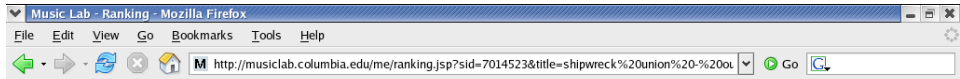
☐ ★ ★ ★ ★ i like it

☐ ★ ★ ★ it's OK

☐ ★ ★ i don't like it

☐ ★ i hate it

Rate It!



00:53 shipwreck union - out of the woods

volume

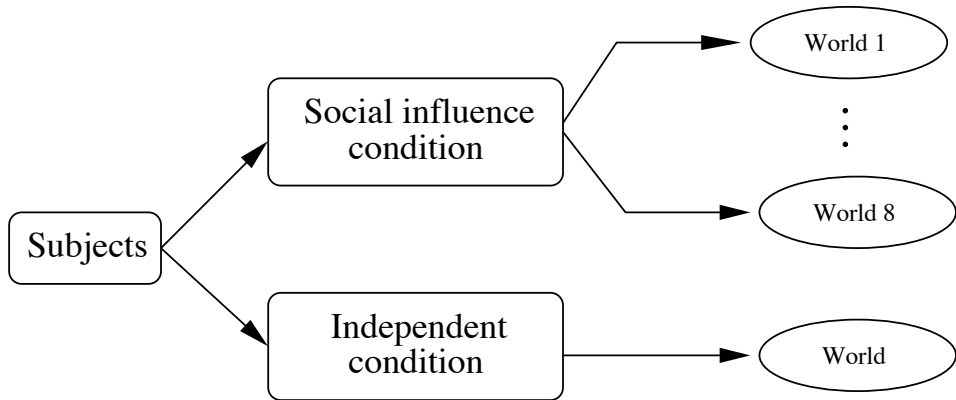
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	# of down loads	[Help]	[Log off]	# of down loads	# of down loads
HARTSFIELD: "enough is enough"	20	GO MOREDCAI: "it does what its told"	12	UNDO: "while the world passes"	24
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Music Lab - Song Selection - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.musiclab.columbia.edu/me/songs

	# of class votes	[Help] [Log off]	# of class votes	# of class votes	
HARTSFIELD "Enough is enough"	20	GO MORDOCA "I don't want to talk"	12	UNDO: "While the world passes"	24
DEEP INVOHIN TO DIE: "for the city"	17	PARKER THEORY: "the last"	47	UP FOR NOTHING: "in sight of"	13
THE THIRTY SYNDICATE: "2001 is magical"	20	MISS OCTOBER: "pink aggression"	27	SILVERFOX: "know"	17
THE BROKEN PROMISE: "the end is here"	19	POST BREAK TRAGEDY: "Noblesse"	14	STRANGER: "tune down"	10
THIS NEW DAWN: "the belief above the answer"	12	PORTHAWING: "tea"	24	FAIR FROM KNOWN: "fade it"	18
NOONER AT NINE: "with me"	0	THE CELEBRATION: "I stepped in an orange pool"	20	STUNT MONKEY: "a tale of"	46
MORAL HAZARD: "waste of my life"	8	LOWEST: "lockdown"	17	DANTE: "the mystery"	14
HOT FOR SCHOLARS: "an unusual change"	27	SIMPLY WAITING: "dread with the count"	16	PACING THROUGH: "each one has it"	10
SECRETARY: "keep your eyes on the ballroom"	5	STAR CLIMBER: "tell me"	36	UNKNOWN CITIZENS: "telling over"	34
ART OF KAILY: "reflexes into, robotic breakdown"	30	THE PASTLAME: "I could take you"	31	BY NOVEMBER: "I could take you"	20
HYDRAULIC SANDWICH: "a passion arises"	20	A BLINDING SILENCE: "memories and mistakes"	17	DRAWN BY THE SKY: "top the side"	12
EMBER DAY: "an upcoming winter"	25	SENRANA: "the blackrock image"	15	SELSUS: "rain of the city"	22
SALUTE THE DAWN: "Lament"	13	CAPS BERNARD: "baseball notebook v1"	12	GRABAN: "eye patch"	14
RYAN'S BARBARIC: "leave, the old"	14	IF PALLS DOWN: "a brighter shining star"	11	RYAN GOLD: "advice down to you"	10
REDEERING: "before to see"	12	CLIMBERWASTED: "a plan behind deviancies"	17	BENEFIT OF A DOUBT: "run away"	36
HALL OF FAME: "best mistakes"	29	SILENT FILM: "all I have to say"	61	SHIPWRECK UNDO: "best of the woods"	16

(a) Less social influence

Music Lab - Song Selection - Mozilla Firefox

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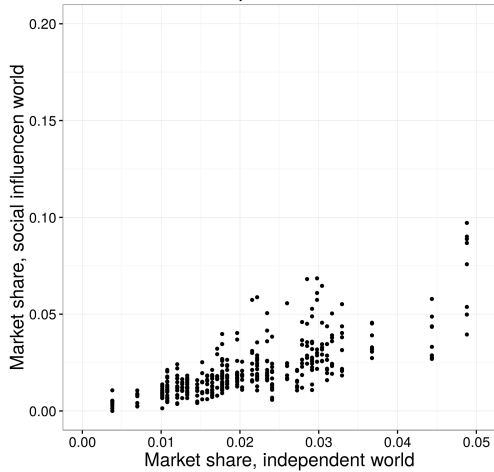
http://www.musiclab.columbia.edu/me/control/

	[Help] [Log off]	# of class votes
PARKER THEORY: "the last"		159
THE PASTLAME: "I'd death do as part (I don't)"		103
SELSUS: "rain of the city"		62
STUNT MONKEY: "inside out"		56
BY NOVEMBER: "I could take you"		55
FORTHWARD: "tea"		49
HYDRAULIC SANDWICH: "passion arises"		43
SILENT FILM: "all I have to say"		40
UNDO: "While the world passes"		36
BENEFIT OF A DOUBT: "run away"		32
A BLINDING SILENCE: "memories and mistakes"		27
MISS OCTOBER: "pink aggression"		26
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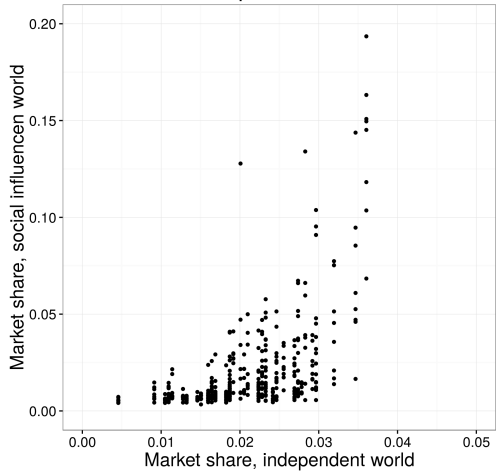
Date

(b) More social influence

Experiment 1

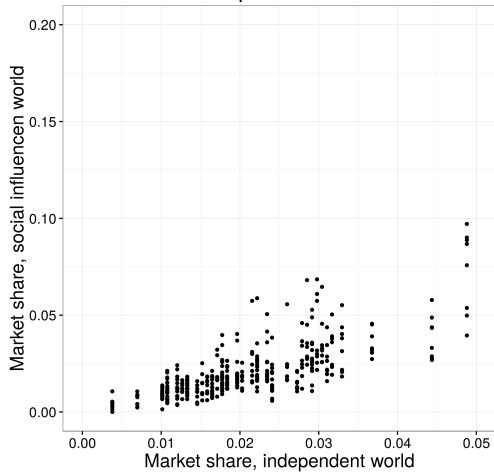


Experiment 2

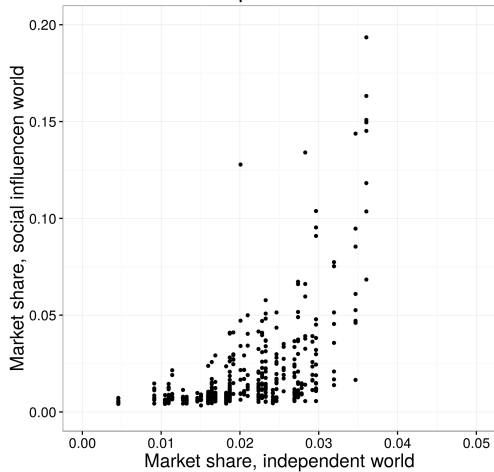


Results:

Experiment 1



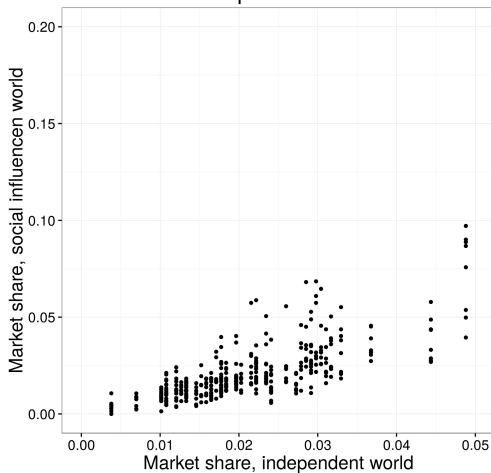
Experiment 2



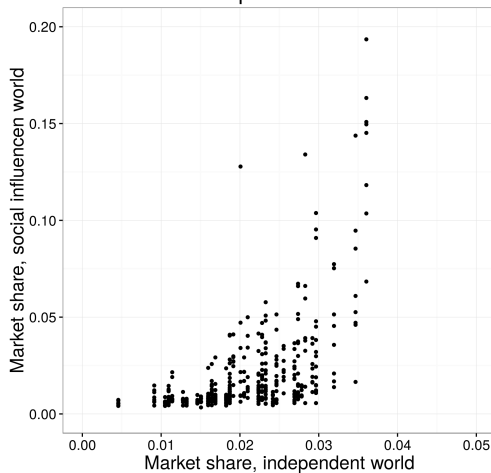
Results:

- More social influence leads to more unpredictability

Experiment 1

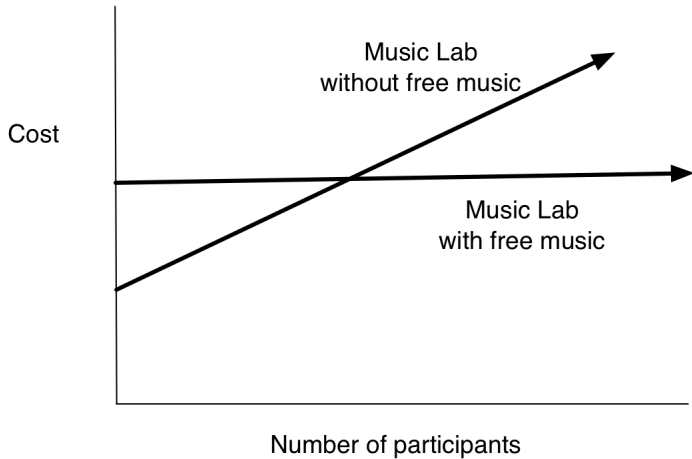


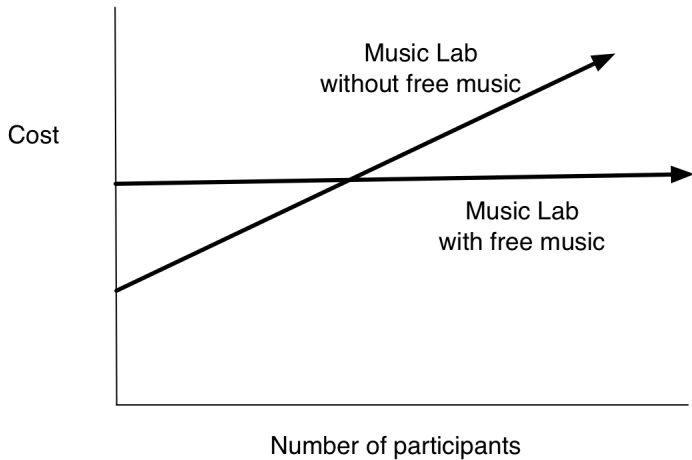
Experiment 2



Results:

- ▶ More social influence leads to more unpredictability
- ▶ You can predict failure but you can't predict success





Zero variable cost is a means not an end.

Behind the MusicLab?

Temporal Distance and Discrimination: An Audit Study in Academia

Katherine L. Milkman¹, Modupe Akinola², and Dolly Chugh³

¹The Wharton School, University of Pennsylvania; ²Columbia Business School, Columbia University; and

³Stern School of Business, New York University

<http://dx.doi.org/10.1177/0956797611434539>

Dear Professor Salganik,

I am writing you because I am a prospective Ph.D. student with considerable interest in your research. My plan is to apply to Ph.D. programs this coming fall, and I am eager to learn as much as I can about research opportunities in the meantime.

I will be on campus today, and although I know it is short notice, I was wondering if you might have 10 minutes when you would be willing to meet with me to briefly talk about your work and any possible opportunities for me to get involved in your research. Any time that would be convenient for you would be fine with me, as meeting with you is my first priority during this campus visit.

Thank you in advance for your consideration.

Sincerely,

Carlos Lopez

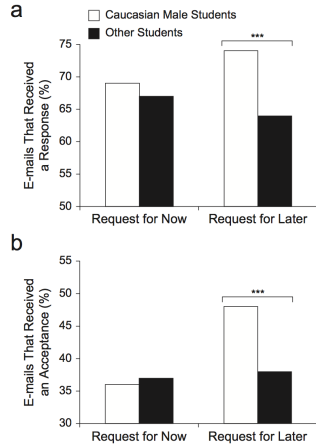
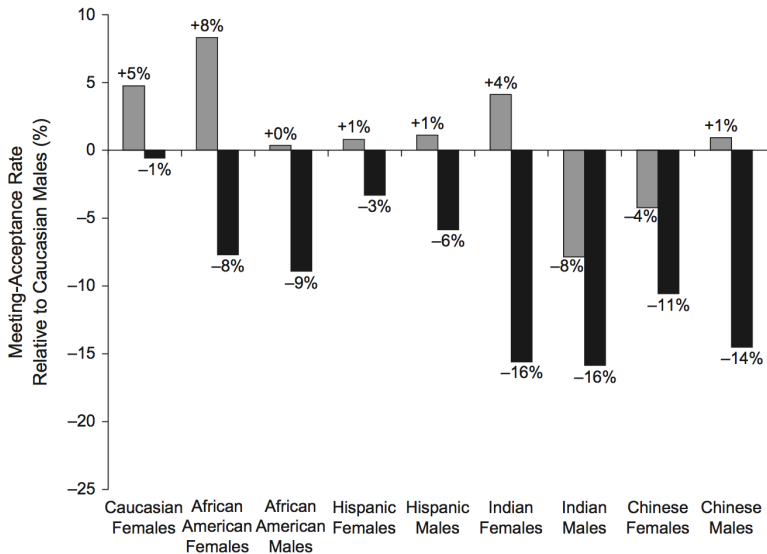


Fig. 1. Percentage of faculty members who (a) responded to and (b) agreed to meet with Caucasian male students and other (i.e., female and minority) students as a function of condition (now vs. later). All percentages are sample weighted. Asterisks indicate significant differences between the two groups of students ($***p < .001$).

b



What are the fixed and variable costs for this experiment?

Important difference between:
zero variable cost and zero variable cost to you

Questions?