Applied Data Analytics

Data analysis — Interpretation challenges

Selection models

Hans-Martin von Gaudecker and Aapo Stenhammar

Examples

- Learning from successful founders (case studies, any retrospective study)

- Polling people who spend lots of time answering polls

- Comparing health outcomes of hospitalised and non-hospitalised to learn about the effect of hospitalisation
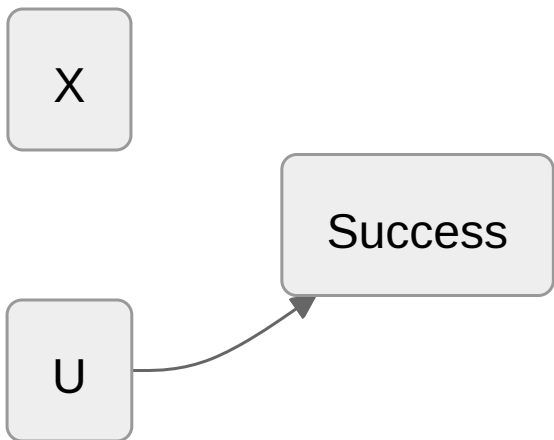
Learning from successful founders?

Typical article about founders:

1. Interview successful founders (Y)

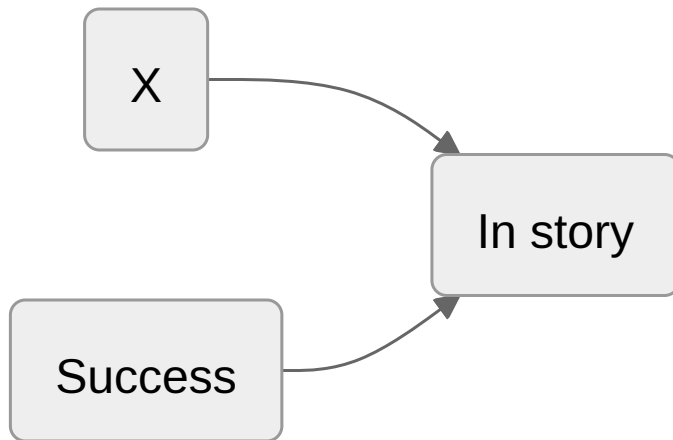2. Narrow down the narrative to 1-2 factors (X)

Example based on Mollick blog, Lifchits et al. (2023)

Learning from successful founders?

Causal relation between X and Y

Selection model

Y	X	Y condition	X condition	In story
1000	500	True	True	True
900	400	True	True	True
800	300	True	True	True
700	200	True	False	False
600	100	True	False	False
500	100	False	False	False
400	200	False	False	False
300	300	False	True	False
200	400	False	True	False
100	500	False	True	False

Published story

All successful founders have exceptionally high values of X and more is better. Here is the table to prove it:

Y	X
1000	500
900	400
800	300

Polling people in access panels
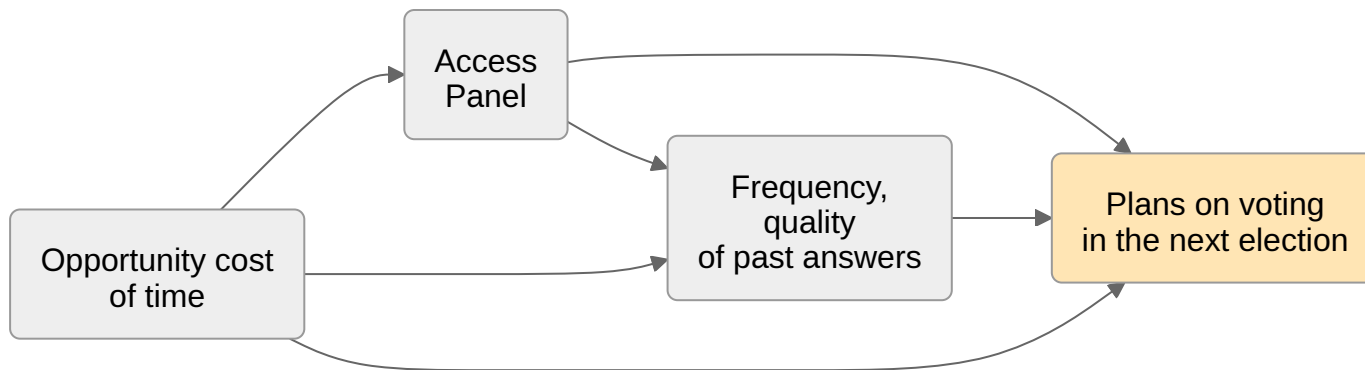
Health effects of hospitalisation