Natural Experiments in Management Research

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INTRODUCTION

The quest for empirical identification in management research has created substantial attention around 'natural experiments,' a form of causal inquiry that has been traditionally popular in economics (**Meyer1995**; **Rosenzweig2000**) and political science (**Dunning2008**). The premise to conduct a natural experiment is the presence of a 'naturally' occurring event — such as new regulations and laws, natural disasters, or economic and political crises — that heterogeneously influences the units of a population (**dunning2012**; **Robinson2009**). Insofar as such event generates random or as-if random variations in the environment, scholars can mimic the experimental ideal in which units are split into a treatment and a control group or receive different levels of the treatment. Ultimately, this opens up the possibility of inferring causal effects when the substantive relationship at hand is difficult to investigate in a laboratory setting and/or require operating costly, impractical, or unethical field experiments.

Although naturally occurring events can turn into opportunities to conduct causal research, there are limited guidelines that help management scholars prepare and review papers that implement the natural experiment research design. To fill this gap, we highlight the strengths and weaknesses of natural experiments as operated in the field of management studies and propose actionable suggestions to assess and communicate the validity of natural experiments.

To do so, we critically review the population of 147 natural experiments published across seventeen top-tier management journals. Our review aims to address the following research questions: *R1 — How do management scholars claim the random or as-if random nature of environmental variation at the core of a natural experiment? R2 — How do they claim the empirical and substantive relevance of a natural experiment? R3 — How do they claim the credibility of the statistical model encapsulated in a natural experiment design?*

This work is organized as follows. The next two sections briefly introduce the key features of the 'standard natural experiment,' [1] along with the evaluative framework we use to analyze the individual natural experiments. The following section describes the selection of the reviewed studies. Then, we present the key insights that emerge from our analysis and conclude with a suggested checklist that helps management scholars to exploit the opportunities of causal inference offered by naturally occurring events. The online appendix presents an integrated set of Python scripts to implement standard natural experiments and to assess their validity.

REFERENCES

[1] In his comprehensive, cross-disciplinary analysis of the literature, Dunning **dunning2012** identifies three forms of natural experiments: Standard natural experiments; instrumental variables (Angrist, 1990); regression discontinuity designs (Thistlethwaite & Campbell, 1960). In the interest of clarity and integrity, our review concentrates on standard natural experiments, whose origin goes back to the highly acclaimed and impactful research Dr John Snow (Snow, 1855) conducted on the diffusion of cholera in the mid 19th century London. In this paper we use the term 'natural experiment' to exclusively refer to standard natural experiments.