

Measuring Automated Influence: Between Empirical Evidence and Ethical Values

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Automated influence, delivered by digital targeting technologies such as targeted advertising, digital nudges, and recommender systems, has attracted significant interest from both empirical researchers, on one hand, and critical scholars and policymakers on the other. In this paper, we argue for closer integration of these efforts. Critical scholars and policymakers, who focus primarily on the social, ethical, and political effects of these technologies, need empirical evidence to substantiate and motivate their concerns. However, existing empirical research investigating the effectiveness of these technologies (or lack thereof), neglects other morally relevant effects—which can be felt regardless of whether or not the technologies “work” in the sense of fulfilling the promises of their designers. Drawing from the ethics and policy literature, we enumerate a range of questions begging for empirical analysis—the outline of a research agenda bridging these fields—and issue a call to action for more empirical research that takes these urgent ethics and policy questions as their starting point.

Table 1: Typical empirical questions exploring the effectiveness of automated influence technologies

Mode of Influence	Application Domain	Typical Empirical Research Questions
Targeted Advertising	Commerce	“Are users presented with targeted advertisements more likely to report an intention to purchase the advertised product or service, relative to generic controls?” “Are users presented with targeted advertisements more likely to click on them, relative to generic controls?”
Digital Nudges	Health	“Do users report higher physical activity levels after receiving targeted digital nudges, relative to controls?”
	Sustainability	“Do car tracking technologies report better fuel consumption when drivers receive targeted digital nudges, relative to controls?”
Recommender Systems	Social Media	“Do targeted recommendations drive users to spend longer on the platform?”

Table 2: Examples of empirical questions generated by concerns raised in the ethics and policy literatures

Ethical Value	Mode of Influence	Relevant Empirical Questions
Privacy	Targeted Advertising	“Is targeting data collected with the consent of data subjects?” “Do people think targeting data is collected in ways that are contextually appropriate?”
Autonomy	Health Nudges	“Are people aware that they are being nudged?” “Do people understand why and how they are being nudged?”
Economic Harm	Dark Patterns	“Do particular dark patterns cause people to pay more than they otherwise would for specific products?”
Epistemic Harm	Recommender Systems	“Are people susceptible to conspiracy theories or other forms of disinformation in proportion to the relative share of news and other media they receive via targeted recommendations?”
Epistemic Harm	Recommender Systems	“Is public debate healthier/more robust in places where rates of e.g., social media usage, are lower?”