

Information, Communication, and Knowledge: Some Key Questions

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Economics of Transformative AI

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First critical question: How will transformative AI affect the accuracy/quality of information, through impacts on our information ecosystem

- a) Incentives to produce high quality information
- b) Ability to obtain/produce/process high quality information, identify high quality information, and to disseminate high quality information and high quality analyses based on high quality information
- c) Increased ability to produce and disseminate mis and disinformation

Answers ambiguous—with both technical and economic uncertainties

Incentives to produce high quality information

- Information is a public good, in the technical sense of Samuelson
 - But most information is privately provided
- AI is trained on privately produced data
- But results may decrease ability of private producers of information to appropriate returns from what they produce
 - Or even to have a viable business model (in the case of the legacy media)
- And that will reduce investments in the production of information, especially high-quality information (more accurate, more timely, more relevant)

Supply of high -quality information, and the quality of the information ecosystem?

- Thus, while AI may lower the cost of obtaining some kinds of information and the costs of processing information more generally, increasing ability to process/integrate/use information, it may reduce the supply of many kinds of high-quality information
- It may enhance the ability to pollute the information ecosystem (see below): will AI be able to identify high quality information? Does synthetic data really resolve the problem of “model collapse”

Net outcome uncertain

- Technical issues—distinguishing between high quality and low-quality information; real and synthetic—with consequences for output of AI; ability to produce relevant synthetic data; better “sensory capacities”
 - Will transformative AI help us make distinctions? Will it be able to keep pace with its ability to increase “information pollution”?
 - Answers may depend on problem being analyzed
- Outcomes may also depend on legal standards on IPR

What are the appropriate legal frameworks for dealing with issue?

Intellectual property is a social construction

Designed to promote societal welfare

Rules appropriate at one time, with one set of technologies, may not suite another time, with new technologies

E.g. “fair use” exception

But with AI, detecting prior use of particular combination of words or notes will be easy—even if there was not “theft” of IP

Getting right balance will be hard

Risk of stifling innovation and creativity with the wrong design of IPR

mis and disinformation

Arms race—ability to detect and “remove” (or at least impede dissemination) vs. ability to produce and disseminate mis and disinformation and evade detection

Experts in room may have a view on how this will play out

Answer may depend on policies

- Regulations, punishments for spreading mis and disinformation
- But extraordinarily difficult to get right balance
- Partly (but only partly) issues of free speech
 - Free speech has always been curbed in broader societal interests
 - New circumstances require new rules
 - Rules may affect virality
 - Part of issue is “speed”—time to assess whether there is mis or disinformation
- Legal system has its limitations
 - Abuse of libel laws

Second critical question: Broader welfare impacts

- There are large externalities and other market failures
- Unfettered development of AI is not likely to maximize societal welfare, no matter how construed—mismatch between objectives of firm and interests of society, already evident in social harms (such as polarization, dissemination of misinformation, polluting the information ecosystem)

Risks vs rewards

- Risks (some existential, some discussed in other sessions, including increased inequality, unemployment, social disruption) vs. rewards
 - But outside of some areas in medicine, how large are the benefits?
 - Limited benefits of increasing material standards of living
 - Limited benefits of faster communication (one act 90 minute King Lear worse than full performance)
 - Adverse effects may depend on the pace of change—too fast a pace risks change beyond the ability of individuals and society to adjust appropriately, e.g. change occupations or develop necessary legal and regulatory standards
- Perspective on risks vs. rewards informs one's stance on what kind of regulatory regime is desirable
 - What are the *social* costs of slowing down the pace of innovation vs. the benefits?