
Innovating with Data: Opportunities and Considerations



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Questions About Data

■ Concerns

- Uses data for a growing number of purposes
- Scale/concentration of data

■ Benefits

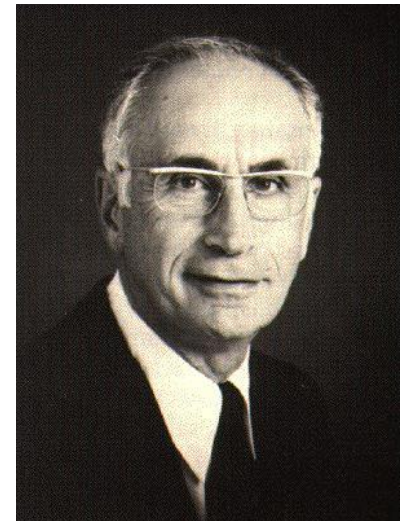
- Effectiveness of ad-supported services
- Source of new services
- Lessons from the past: innovation markets

The Impact of Data on Ad Support

- Benefits of ad support
 - Advertising is efficiently priced on the margin
 - Consumers prefer free
- Problems of ad support
 - Ad support reflect preferences poorly (signal is indirect, voting models do not permit intensity of preferences)
 - Broadcast television: gap is 7x (Noll et al. 1973); HBO
 - Goldfarb and Tucker (2011): EU data protection laws limiting ad targeting reduced revenue 65%

Sources of New Services

- Alchian (1950): Business success often results from luck, not brilliance
 - Motivations are often poor explanations for success
 - Process is random mutation and natural selection
 - Explanations can be irrelevant/misleading
 - Solution is to promote heterogeneity/experimentation



Sources of New Services

■ Examples

- Google
- Facebook
- Translation services
- Disease epidemiology

■ Implications

- Make the default answer yes, not no
- Rely on competition policy to remediate harms, but only on actual proof of consumer harm

Lessons from the Past: Innovation Markets



- Gilbert (1995) on innovation markets
 - Proposed analyzing concentration in R&D separate from concentration in product markets
 - Is similar to data in that it looks at input concentration
- Proposal ultimately failed
 - Schumpeter vs. Arrow on concentration and innovation
 - Empirical literature is huge, but ambiguous
 - Relation between R&D and consumer welfare is unclear
- Same considerations apply to data

Implications

- Data can benefit consumers
 - Better targeting can reduce the gap between revenue and intensity of consumer preferences
 - Enhanced revenue can lead to more services, higher quality services, and more diverse services
- Flexibility enhances innovation
- Any intervention should be based on a solid theoretical and empirical foundations