

Personal Data Markets

Foundations of Web Science Lecture
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Overview

- 1) The 'AdTech' industry
- 2) Controlling your own profile
- 3) Selling your own data

1. The AdTech Industry

or 'never play again'

+ More sport

Advertisement



opinion



“ Facebook will beam the web to Africa - a vital first step in helping people connect
Jeanne Bourgault

11

Consumer Profiling

A way of matching buyers and providers

Digital Advertising: around 20% of ad industry
(\$137b)

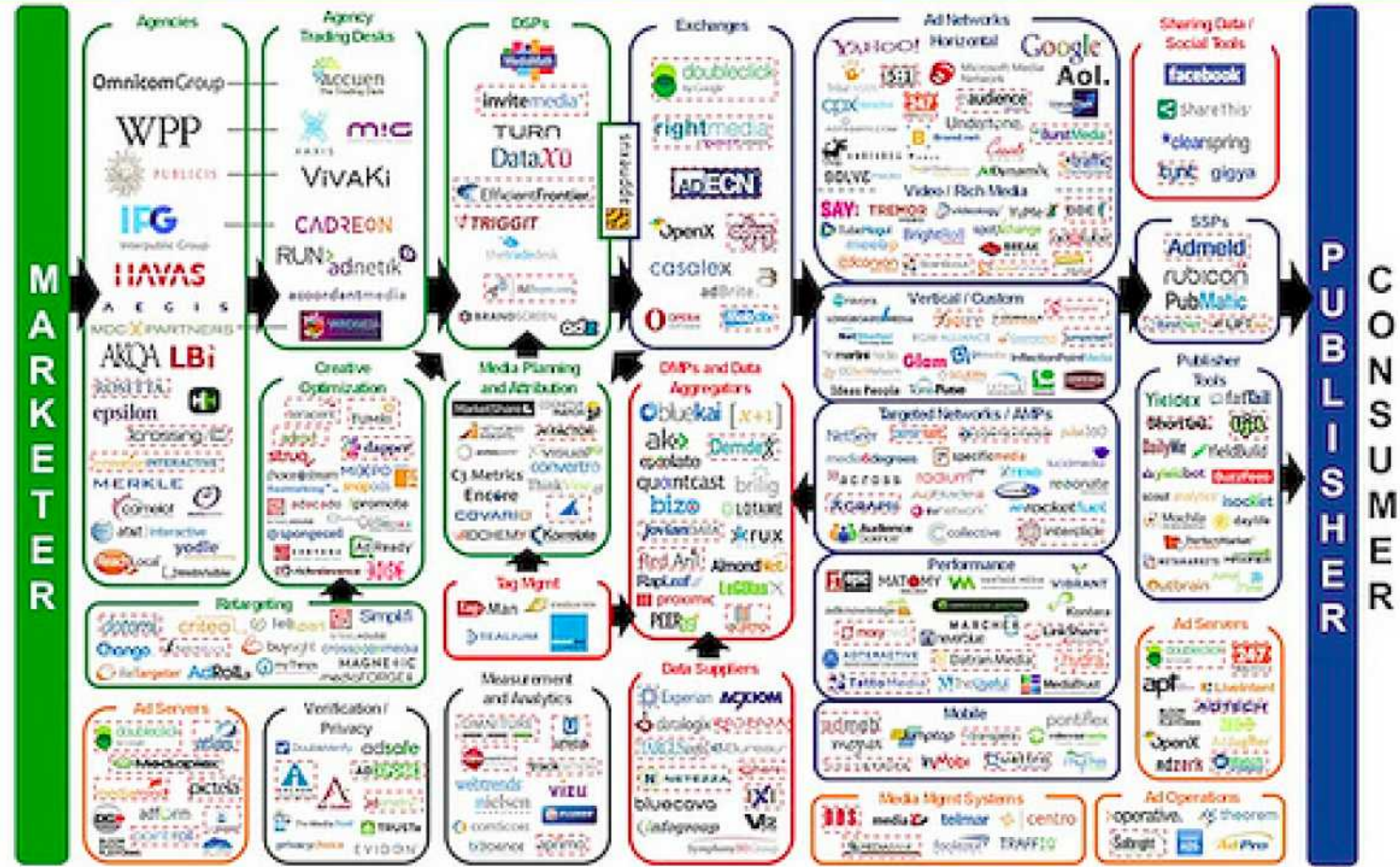
90% of revenue for internet giants

Behavioural profiling

Behavioural profiling: “The process of discovering patterns from the automatic extraction from an important amount of information, that will have some predictive capabilities ... about an individual or group” - Hildebrandt 2008

makes inferences based on an individual's **previous activity**,
usually collected and compiled **surreptitiously**

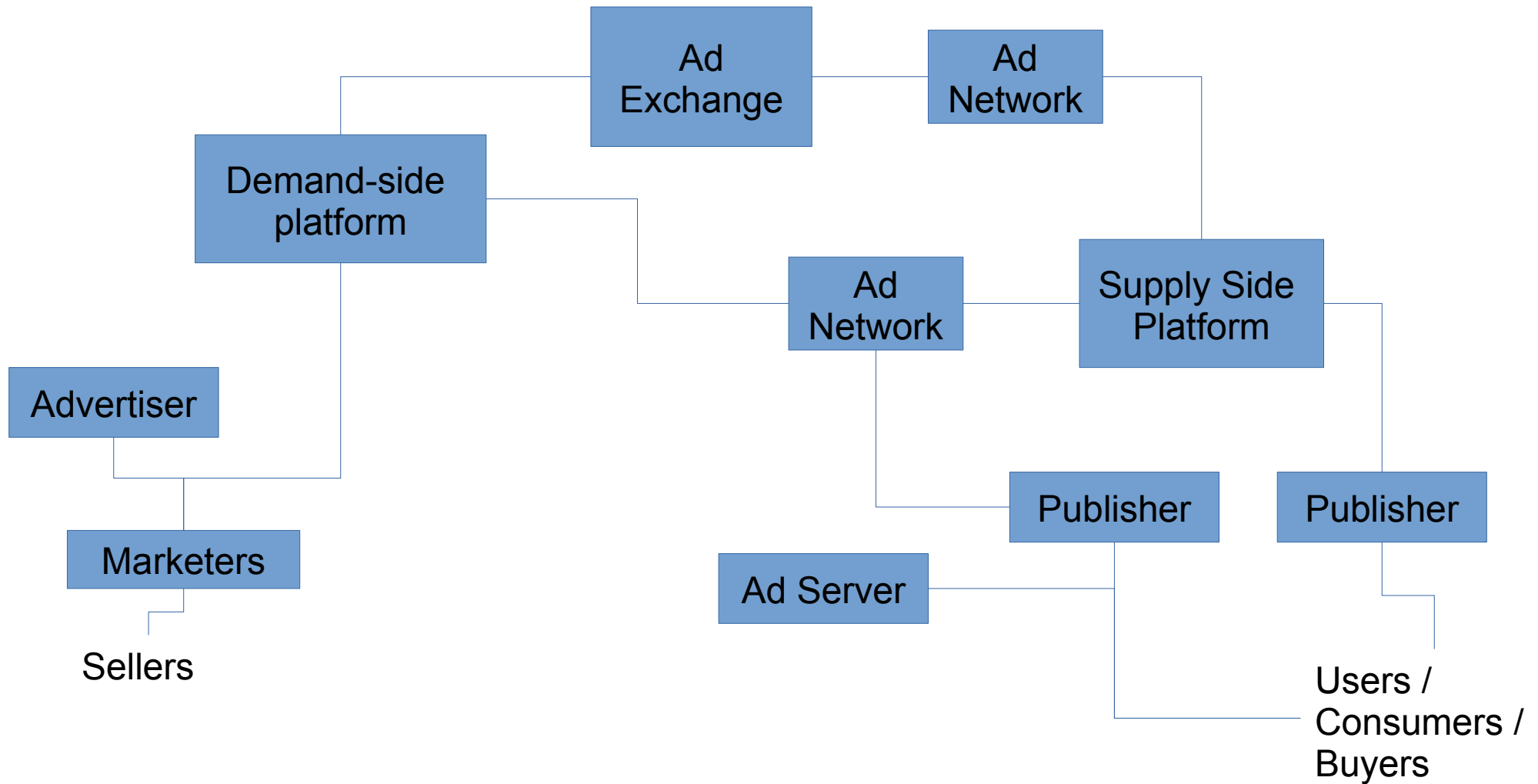
DISPLAY LUMAscape



⊞ Denotes acquired company

© LUMA Partners LLC 2012

Digital advertising



Does it work for businesses?

44% are never 'in view'

Ad-blocking (software and wet-ware)

Click-fraud

Inaccurate profiles

Does it work for consumers?

Surveillance and civil liberties

Malvertising

Marketing profiles fall into the wrong hands

Personalisation, or discrimination?

Consumer response

When personalisation in advertising increases, consumers pay more attention, but find it less acceptable (Malheiros, Jennett, Patel, Brostoff, & Sasse, 2012)

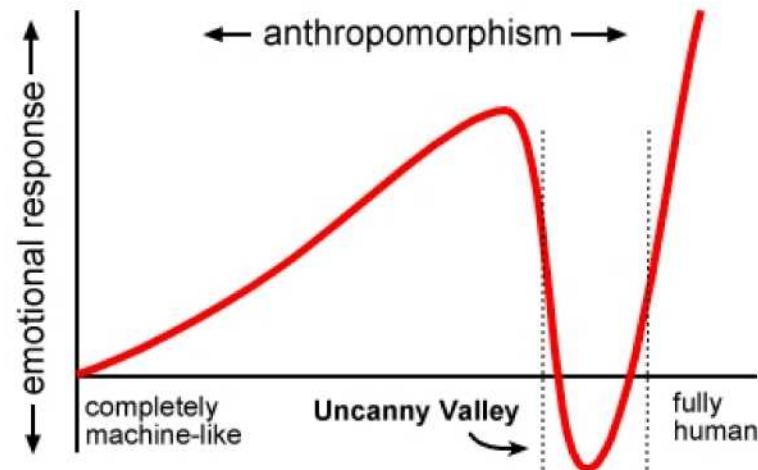
When behaviourally targeted ads are perceived as creepy and threatening, they can lead to a 5% reduction in intention to purchase (Barnard, 2014)

Malheiros et al (2012) Too close for comfort: A study of the effectiveness and acceptability of rich-media personalized advertising - Proceedings of the SIGCHI Conference on Human Factors in Computing Systems

Barnard (2014) The cost of creepiness: How online behavioral advertising affects consumer purchase intention.

The uncanny valley of personalisation

Mori, Masahiro, Karl F. MacDorman, and Norri Kageki. "The uncanny valley [from the field]." *Robotics & Automation Magazine*, IEEE 19.2 (2012): 98-100.



The [Uncanny Valley](#) of emotional response versus anthropomorphism. © 2004 Matthew Trump under CC-BY-SA 3.0

2. Controlling your own profile

Individual-centric model:

Individuals create their own profiles by supplying their own information, decide which marketers / brands / organisations are allowed to see what.



Beta testers wanted



Apply now!



Mydex.org
 Nfluence.com
 Handshake
 Ctrl.io.com
 Sherbit.io
 YesProfile.com
 Datacoup
 Personal.com
 Singly

Self-authored interest profiles

Self-authored interest (SAI) profiling

based on information explicitly volunteered and
controlled by the individual.

Individual can create and edit profile as they wish

Study

Type of profiling → propensity to purchase

Beliefs about type of profiling → propensity to purchase

Online user study

Simulate behavioural profiling using Amazon product advertising API

Simulate SAI profiling using simple free-text keywords

Findings (averages)

Condition	Source of targeting	Interface presented to user	Average rating
All conditions	N/a	N/a	2.68
Behavioural	Behavioural	Behavioural	2.14
	Behavioural	SAI	2.78
SAI	SAI	SAI	2.89
	SAI	Behavioural	2.95

Findings

Test	Averages	Wilcoxon Rank Sum Test
Pure behavioural vs. Pure SAI	2.14, 2.89	W = 1129, p-value = 0.003842
Pure behavioural vs. misrepresented behavioural	2.14, 2.78	W = 950.5, p-value = 0.003562
Pure SAI vs misrepresented SAI	2.89, 2.79	W = 1664.5, p-value = 0.6898

Implications for industry

Self-authored interest model a viable alternative to behavioural targeting.

Giving individual consumers transparency and control over their profiles and marketing channels can actually serve marketing objectives.

Can increase positive responses to marketing messages they receive, both due to the content of the recommendations as well as the positive attitudes users have towards the process.

3. Selling your own data

"Consumers, based on their attention, are creating more and more of the value on the Internet."

- Seth Goldstein
CEO of Root Markets, 2006

“Personal data is the new oil of the internet
and the new currency of the digital world”

- Meglena Kuneva, European Consumer
Commissioner, in March 2009.

Personal data

- Can we estimate the monetary value of personal data?
- Market cap per 'record' (Facebook: \$40-300)
- Net income per user (Facebook: \$4-7)
- Market price (\$0.5/ address, \$35/ military record)
- Cost of data breach (Sony (2011) leak = \$1.7/account)
- Insurance, economic experiments

Data Proletariat: Unite?



Solidarity, June 30, 1917. The Hand That Will Rule the World—One Big Union.

- “Property rights in personal information: An economic defense of privacy” (Murphy 1995)
- “Privacy as property” (Lessig 2002).
- J. Lanier. Who owns the future? 2014.



I've data mined myself. I've violated my own privacy. Now I am selling it all. But how much am I worth?

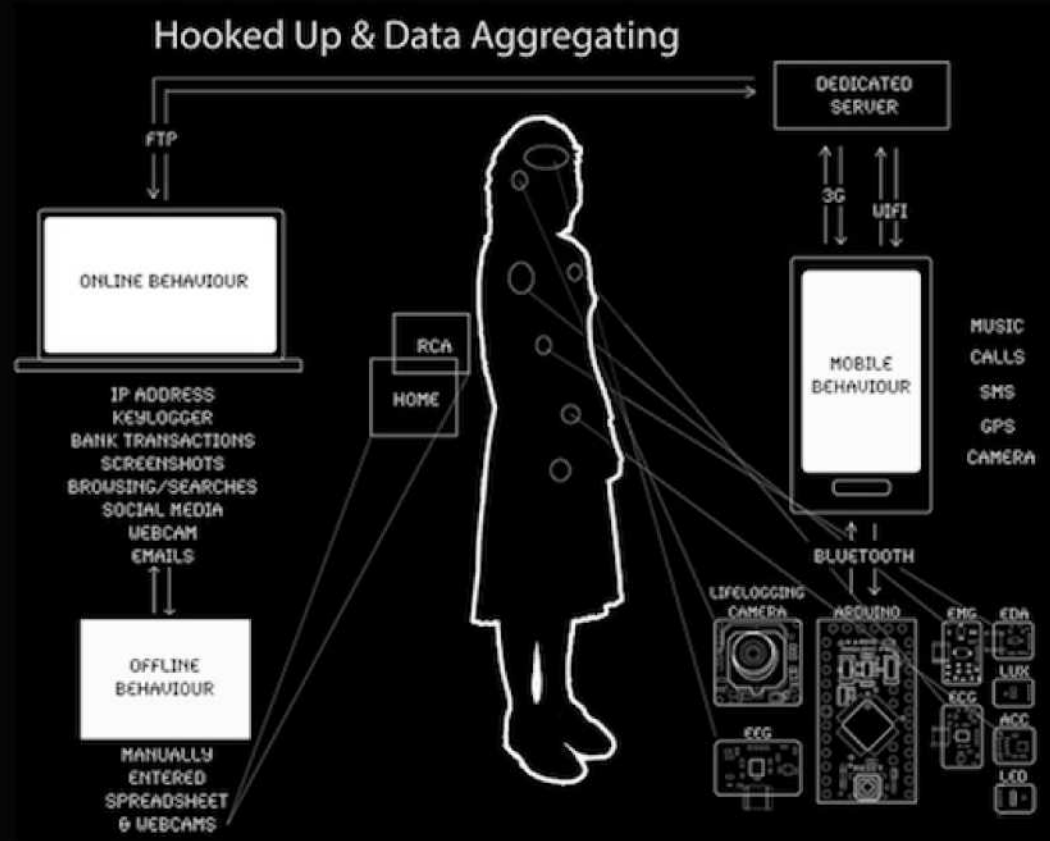
Created by

Federico Zannier



213 backers pledged \$2,733 to help bring this project to life.

<https://www.kickstarter.com/projects/1461902402/a-bit-e-of-me>





[Get Started](#) [Learn More](#)



Yes Profile



Créez et maîtrisez votre Profil.
Gagnez de l'argent en louant votre Profil à vos marques favorites.

Facebook 230

VOTRE
PROFIL
...



VAUT DE
L'ARGENT!



Redevance propriétaire de votre Profil.

Pré-inscrivez vous pour recevoir votre invitation et participer à l'ouverture officielle.

Votre email

Go

Statut officiel en période de 30 jours à compter de votre invitation.
Tous droits réservés et diffusés à l'univers.

Connected Data Sets



Data Sets Being Sold



Market Status:

ACTIVE

Earnings This Week: \$2.00













All Time Earnings: \$34.00

Help:

- > How much is my data worth?
- > When do I get paid?
- > Who is buying my data?
- > See all FAQs

Connect accounts for Half-Nelson Plan [\(Change\)](#)

FINISH

 SPENDING ●  Bank of America - Credit Card Pulls vendor name, date and purchase amount from your monthly statements. connected	 FACEBOOK ●  Connected Pulls basic profile information, friends (ages + genders), likes and check-ins. connected	 TWITTER ●  Connected Pulls basic profile information, friends (ages + genders), likes and check-ins. connected
 LINKEDIN ●  Connected	 FOURSQUARE ●  Connected	 INSTAGRAM ●  Connected

Qualitative study

- Discussion of traditional profiling vs. user-controlled profiling
- User study (n = 60)
- Qualitative survey, discourse analysis (274 responses)
- Raised questions about property, fairness, and ethics of trading personal data

“As owners of our profiles, we have the right to sell them or not”

“This is a fair value exchange”

“Ultimately, I don't want to be convinced by marketing companies to spend more on products I don't need. Receiving \$8 for the privilege does not offset this cost.”

“It is interesting how being offered money for the information we are no doubt giving away for free, changes your perception of its worth, value or influence...

Suddenly, I do not want this information to be available”

Three challenges for 'personal data as property'

- Practical
- Economic
- Moral

The practical challenge

- You can't own data
- Non-excludable
- Non-rival

The economic challenge

- Market price for personal data \neq damage of privacy violation
- Personal compensation \neq societal compensation

The moral challenge



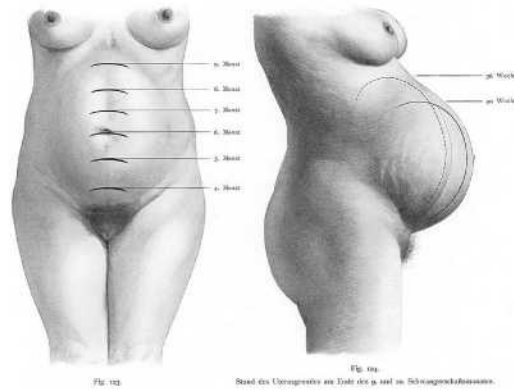
Wear glasses or corrective lenses when driving? Yes

Organ donation

I want to register my details on the NHS Organ Donor Register so that someone whose organs/tissue may be used for transplantation after my death. Please put in the boxes that apply.

Any of my organs and tissue or

Kidneys Corneas Heart Lungs Liver



Moral market limit theories

- *Corrupting the social meaning of a good (e.g. Walzer 1983)*
- *Undermining our equal social standing (Satz 2010)*

Walzer (1983) *Spheres of justice: A defense of pluralism and equality.*
Satz (2010) *Why Some Things Should Not Be For Sale*

“In the future advertising will be tasked with planting seeds of desire, expectations, aspirations that intrigue and pull the consumer along the path to thinking that it was his or her idea, giving a sense of ownership and full decision-making power.”

- “Advertising 2020” (2013)

<http://wfoa.wharton.upenn.edu/perspective/lori-billey/>

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