

The Economic Value of Online Customer Data

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What is the Online Services Sector?

- Very new part of the economy
 - Search Engines, Online Videos, Social Networking Sites, Content Sites
- Most internet services are free and supported by advertising.
- These services are notable for the fact that they collect and use large amounts of data from their customers' activities online to both optimize their services and optimize the advertising they show to fund the service.

What is the value of the Online Services Sector?

- Mckinsey (2010) estimates the value provided to customers of online service sites in US and Europe at 100 billion euros
- 1.2 million people employed directly and indirectly by advertising-supported internet sector (Deighton and Quelch 2010) in US

Outline

Introduction

Data Collection Methods

Advertising

Online Service Sector

Summing up

Collection Methods for Online Data

- Collection of Click-Stream Data
 - Cookies (Flash and HTML)
 - A cookie is simply a string of text stored by a user's web browser.
 - Beacons (invisible tags)
 - Also deep packet inspection
- WSJ tests showed that top-50 sites installed a total of 3,180 of these types of tracking devices.

Privacy Concerns resulting from collection methods for online data

- Companies have always collected customer data
- What has changed is the ease, cost and scope of doing so
- Potential for unavoidable collection of sensitive information
 - For example, Dictionary.com installed 168 tracking tools that didn't let users decline to be tracked, and 121 tools that, according to their privacy statements, don't rule out collecting financial or health data

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How it works?

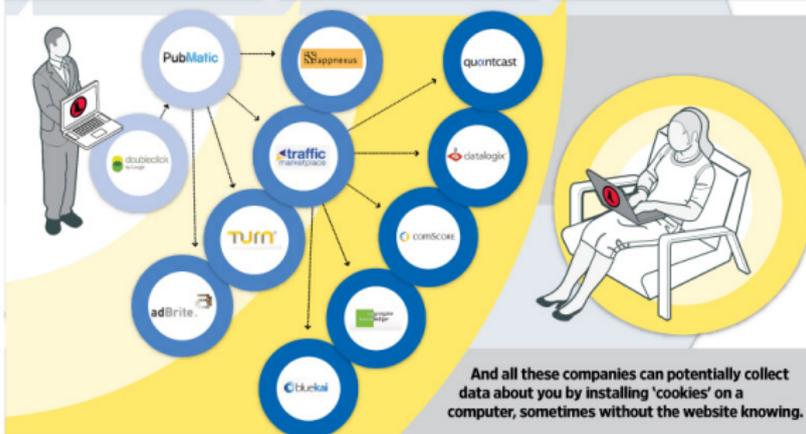
Gaining Access

An example of a chain of advertising and data companies contacted during a visit to the Huffington Post website.

Websites hire outside companies to place ads on their sites and choose the ads that will make the most money.

Those companies contact ad networks that buy ads and tech companies that help advertisers bid for them.

Those ad buyers reach out to other companies to track or measure their ads or for access to ad-targeting data.



And all these companies can potentially collect data about you by installing 'cookies' on a computer, sometimes without the website knowing.

Source: WSJ November, 2009

Why do firms do this?

- Two huge advantages
 - Measurability and Targetability
 - Beale 2009: the price of behaviorally targeted advertising was 2.68 times the price of untargeted advertising and it is twice as effective
 - Goldfarb and Tucker 2010: show that EU E-privacy directive that limited targeting reduced ad-effectiveness by 65 percent.

Privacy and Societal Concerns

- Definite consumer concerns
 - Turow et al 2009: found that 66 percent of Americans do not want marketers to tailor advertisements to their interests.
 - Potential for behavioral price segmentation
- However:
 - Mckinsey 2010: use conjoint analysis to suggest that for each euro an Internet user is willing to spend to limit privacy and advertising disturbance, the user gets a value of six euros from using current ad-funded Web application services.

Online Services use clickstream data to optimize operations

- 1 Optimize website content provision
 - Hauser et al. 2010: showed that such morphing of website-content could increase sales by 20 percent
- 2 Optimize Operations
 - For example, Expedia, an online travel agency, was able to save \$12 million by using clickstream data to identify a flaw in the website design that was leading customers to insert the wrong billing address
- 3 Recommender Systems
 - Increase revenues by 0.3 percent (Dias et al 2008)

Operational data collection generates own set of privacy concerns

- Though there is a great upside to data collection, the type of data collected generates new set of privacy concerns.
- Compared to advertising data it is:
 - ① Stored for longer
 - ② More easily matched to personally identifiable information
- Greater risk when data is breached or shared with outsiders

Online services, clickstream data and privacy is a new and uncharted area

- Much focus has been on advertising since that has been the first-order business problem
 - Major privacy issue here is the sheer number of parties involved and the lack of transparency
- Online services use this data to improve operations
 - Extensive and identifiable nature of data could be problematic if data used externally
- Before we return to online services, some of our panel will discuss more traditional uses of data and how consumer data has been used in financial services