

# Privacy vs. Data: Business Models in the digital, mobile Economy

## Lecture 12

### Trade off between Privacy and Service Value

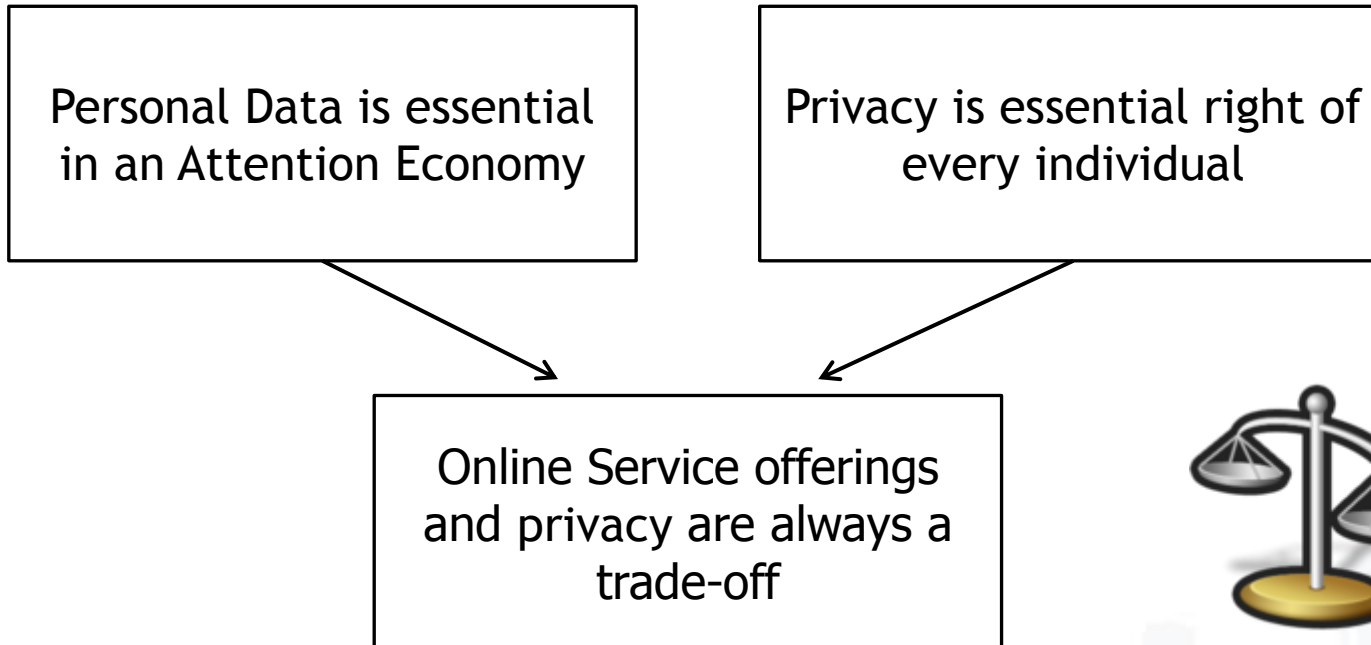
SS 2015

Dr. Andreas Albers



- Trade-off between Personal Data and Value Proposition
- Perceivable Benefits of Personal Data Disclosure
- Issues originating from Lack of Personal Data
- Privacy Issues / Challenges of Privacy Protection
- Privacy as Competitive Edge
- Business Cases driven by Privacy as USP

# Privacy vs. Value Proposition by Online Businesses



- With digital businesses trying to collect all the personal data that is available
  - this trade-off is currently to the disadvantage of individuals
  - Privacy protection (research) is needed more than ever

# Privacy vs. Value Proposition by Digital Businesses

- Most Digital Businesses take advantage of (as much as possible) personal data about users in order to ...
  - offer targeted advertisements
  - enable service personalisation
  - improve services and products
  - tighten service security
  - differentiate from competition
  - conduct market research
  - ...
- Users want to disclose as little as possible personal data to Digital Businesses in order to protect their privacy and prevent possible ...
  - unfair price discrimination
  - unintended/unfair reviews (e.g. credit worthiness / health) reports
  - spamming or fraud
  - sales of contact information to Third Parties
  - Cyber-Stalking
  - unintended linking of social roles
  - black mailing
  - ...



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# “Highly” Perceivable Benefits of Personal Data Disclosure

- Location-based Services (Exit App)



Source: Apple iTunes, 2012

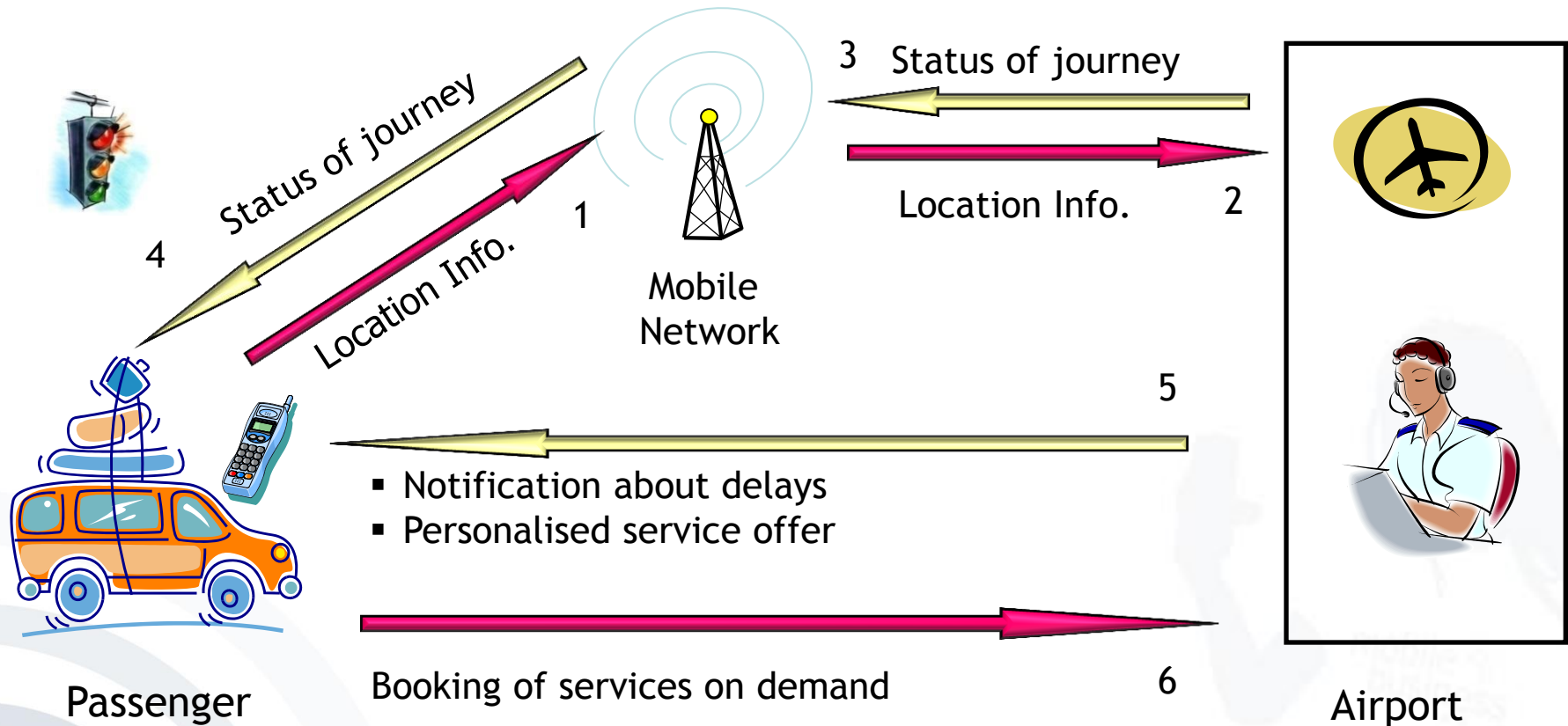
## Mobile Customer Relationship Management System

- Passengers get assistance during their journey (e.g. by car) to the airport from their airline.
- If delays for the journey are detected (e.g. caused by traffic jam), the passengers are contacted by the airline.
- The passengers will be offered personalised services via their mobile device. (e.g. parking service at the airport)
- Depending on the delay, these services can reduce the risk of passengers actually missing their flight.





# Travelling Assistance for Frequent Flyers: Support during Journey to the Airport



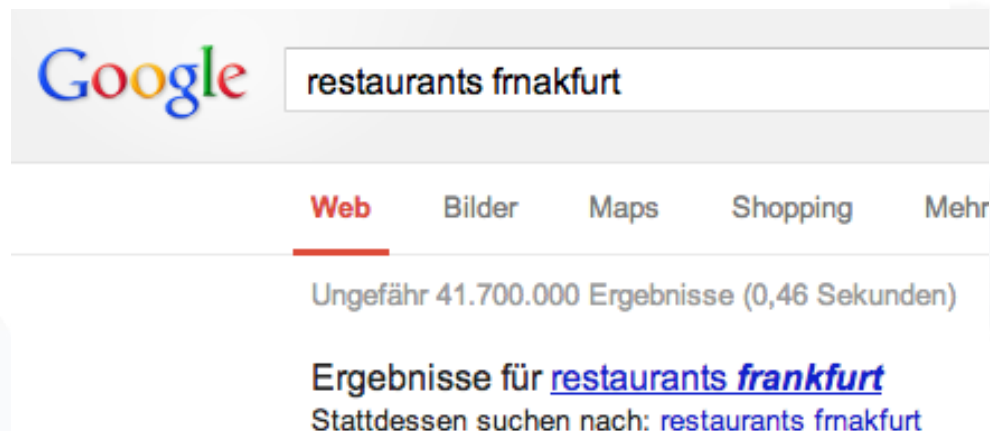
The airline monitors the location of the passenger's mobile device and thereby calculates their ETA.



### ■ Local Search



- Google Suggest & Spelling Correction



The screenshot displays a Facebook Newsfeed interface. On the left is a dark sidebar with navigation options: Thomas Hutter, News Feed, Messages (9+), Ads Manager, CAS SMM Dozierende, Facebook Developer..., Facebook Developer... (2), Thomas Hutter's Soc..., Events (17), and See More... Below the sidebar is a blurred image of a person's face.

The main content area features a post from **Thomas Hutter's Social Media Blog** with the headline "Der neue News Feed 'gefällt mir'!". The post includes a photo of a snowy mountain landscape and the text: "Facebook: Präsentation des neuen News Feeds. Facebook lud zur Pressekonferenz und Präsentation des neuen News Feeds. Kurz vor weg, der neue News Feed sieht toll aus und der Relaunch beinhaltet wesentli". The URL [WWW.THOMASHUTTER.COM](http://WWW.THOMASHUTTER.COM) is visible. The post has 43 likes and 11 shares, with reactions from users like Jasmin Jodlauk, Joachim Joas, Peter Tschach, Nicole Agsten, Uta Leonhardt, and Manuela Kohl.

On the right side, there are sponsored advertisements:
 

- KPV Krankenkasse Prämienvergleich** with a poll asking "Braucht die Schweiz die Einheitskasse?" with options "Nein", "Ja", and "Weiss nicht".
- TacStore.ch Tactical Shop** for Tactical & Outdoor Equipment, with 230 likes.
- NIKE chez Zalando** for Nike shoes, with the text "Découvrez les derniers modèles NIKE chez Zalando. Envoi et retour gratuits!".
- Gadgets für Männer** for outdoor gear, with 474 likes.
- Affiliate Konferenz** for a marketing conference in Zurich, with 56 likes.

At the bottom right, there is a footer with links for English (US), Privacy, Terms, Cookies, and More, along with the Facebook © 2013 copyright notice.

**amazon.com** Hello, Gil Starkey. We have [recommendations](#) for you. ([Not Gil?](#))  
[Gil's Amazon.com](#) [Today's Deals](#) [Gifts & Wish Lists](#) [Gift Cards](#)

[Shop All Departments](#) Search

[Your Amazon.com](#) > **Your Amazon Facebook Page**

**Facebook Profile Info**



[Edit your Facebook profile](#)

**Birthday:**  
**June 10**

**Current City:**  
Chicago, Illinois

You don't have any information about favorite books, music, or movies on Facebook. [Edit your Facebook profile](#) and add your favorites to get personalized recommendations on this page.

**Birthday and Gift Suggestions for Your Friends on Facebook**

Friend's Name	Birthday	Gift Suggestions
	November 1 (in 3 weeks)	<a href="#">See gift suggestions</a>
	November 23	<a href="#">See gift suggestions</a>
	December 8	<a href="#">See gift suggestions</a>
	December 27	<a href="#">See gift suggestions</a>
	January	<a href="#">See gift suggestions</a>


[See all friends on Facebook and their birthdays](#)

**Popular Among Your Friends on Facebook**

Product	Price	Rating	Friends who like this
 <a href="#">The Godfather DVD Collection... DVD ~ Marlon Brando</a>	\$41.49	★★★★★ (630)	2 friends like this:  <a href="#">See more</a>
 <a href="#">Back in Black ~ AC/DC</a>	\$9.99	★★★★★ (677)	2 friends like this:  <a href="#">See more</a>
 <a href="#">Goldfinger DVD ~ Sean Connery</a>	\$12.49	★★★★★ (239)	1 friend likes this:  <a href="#">See more</a>
 <a href="#">The Beatles Stereo Box Set ~ The Beatles</a>	\$188.00	★★★★★ (383)	2 friends like this:  <a href="#">See more</a>
 <a href="#">As a Man Thinketh by James Allen</a>	\$3.50	★★★★★ (261)	1 friend likes this:  <a href="#">See more</a>



# Spotify Recommendations



Spotify

Search

Discover


Radio

Playlists

Follow

Ken

Artist



**Ellie Goulding**  
764,220 Followers


+ Follow

If you like **Foster The People**, we recommend **Ellie Goulding**.

Ellie Goulding is a British vocalist whose music finds the balance between electro-pop and indie folk. Born in Hereford, England, she later moved to the country's east coast to study drama at the University of Kent. Goulding had developed a love for folk music as a teenager, and her time at University also exposed her to electronica. After two years, she took a break from her studies and moved to West London, where she pursued a career as an alternative singer/songwriter and befriended producers like Starsmith and Frankmusik, who gave her songs an electro-pop twist. In 2009, Goulding began building an audience via the internet, where early trac


Artist

People who listen to **Foster The People** are also listening to **The Asteroids Galaxy Tour**.



New Release

You listened to **Daft Punk**. Like to hear the new album?




**Daft Punk | Random Access Mem...**  
Daft Punk

Save as a Playlist


Playlist

We think you might like this playlist featuring **David Guetta** and **Skrillex**.



## Google Now Predictions

Lunch with Brad @ 12pm  
2368 3rd Street, San Jose, CA 94107



[Get directions / 33min](#) [via 101](#)

[Alternate route / 45min](#) [via 280](#)

San Francisco




**80°**


SUNNY  
3MPH

TUE	WED	THU	FRI
 72° 62°	 82° 72°	 60° 42°	 84° 78°

**55 minutes** to work  
Light traffic on 101



Pacifica Airlines  
flight 2340



Status: **Delayed** / Wed, June 27, 2012

Depart San Francisco

**SFO** 7:09pm (sched. 5:20pm)  
Terminal 4, Gate A3

Arrive Taipei


**TPE** 10:32pm  
Terminal 2, Gate 50

[Navigate to SFO / 34 min](#)

The Connaught Hotel

Carlos Place, Mayfair, London  
W1K 2AL, United Kingdom

Check-out in 1 hour




[Get directions](#)

La Gavroche

43 Upper Brook Street, London, W1K 7QR

Reservation in 1 hour  
Journey time walking 45 minutes



[Get directions](#)

[View email](#)

- Improving Web/Mobile UIs through user tracking
- Predicting demand for products/services based on tracking users on a website
- Predicting the spreading of diseases based on search queries
- Improving products/services based online/mobile user feedback/reactions
- ...



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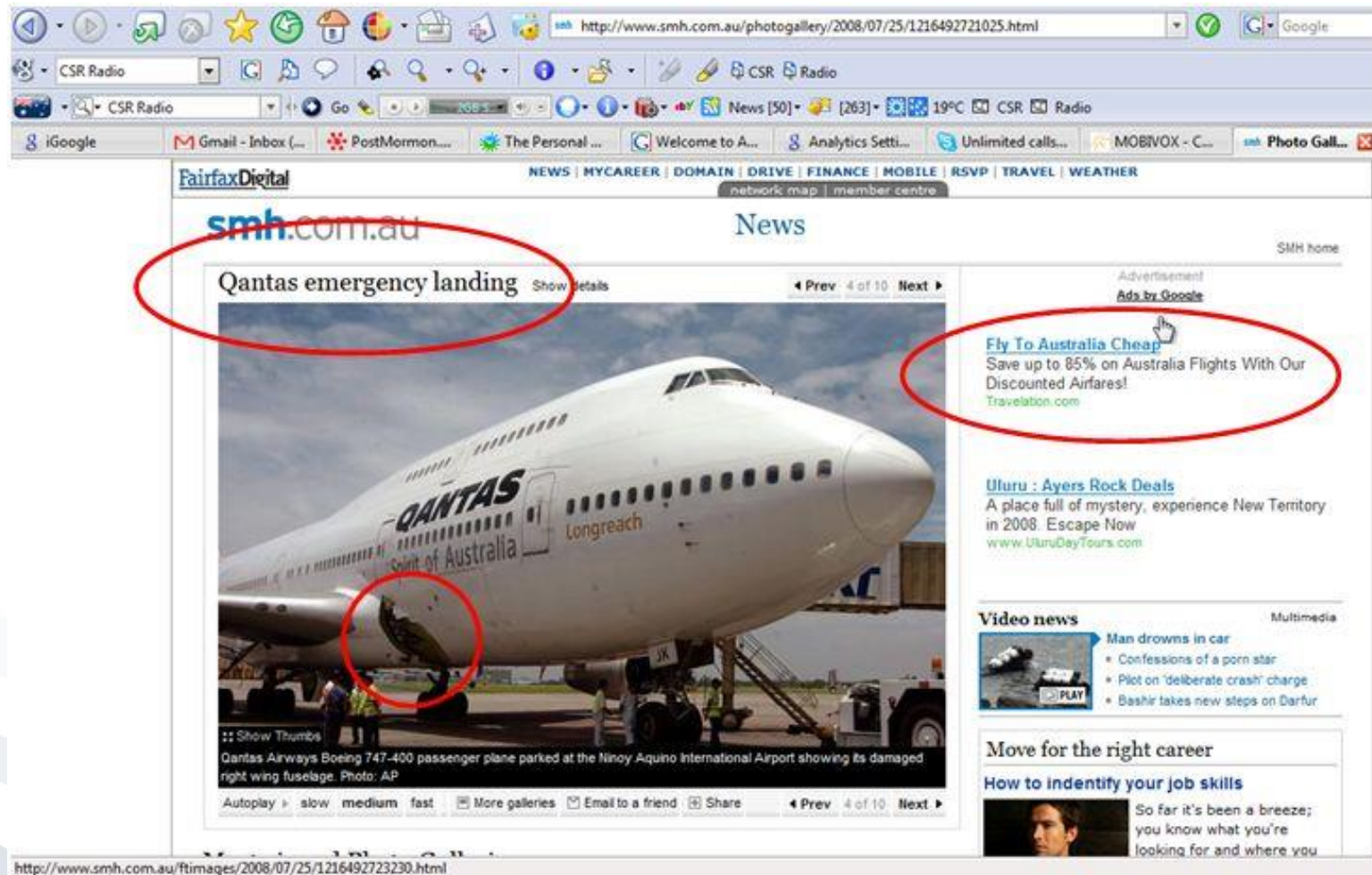
- Personal data allows to target online advertisements to the personal needs an individual in his current usage situation
- In exchange, individuals benefit from free or subsidized online services or content as well as relevant ads
- **Problem 1:** Individuals often do not consider a free services or content as “payment” for their personal data and attention. This mental link is missing.
- **Problem 2:** Ad relevance is often not perceived as a benefit by individuals. Only if the ads are NOT relevant at all individuals may feel disturbed ...



## When Ads fail ...



# Targeted Ads gone wrong



<http://propr.ca/wp-content/uploads/2009/01/qantas-090120.jpg>



# Targeted Ads gone wrong (2)

## Shooting reported at Holocaust Museum in Washington

updated 7 minutes ago

### STORY HIGHLIGHTS

- Police say there is one suspect in shooting, who is contained
- Fire official says at least two people were wounded
- Incident occurred at or near Holocaust Memorial Museum in Washington

Next Article in Crime »

**WASHINGTON (CNN)** -- Gunfire at or around the U.S. Holocaust Memorial Museum on Wednesday wounded at least one person, a D.C. Fire department official said.



Gunfire was reported near the Holocaust Museum in Washington on Wednesday.

Allen Etter, the fire department spokesman, said another person also was injured, but it wasn't clear whether that was from gunfire.

Emergency vehicles converged on the scene near the Capitol Mall.

According to U.S. Park Police spokesman David Schlosser, there is one shooting suspect, and he thinks this person is contained.

[E-mail to a friend](#) [M](#) [M](#) [Share](#)

### Ads by Google

#### Save Big On Home Security

Compare Brink's, APX & GE Security Systems & Save! Fast & Free Quotes.

[www.HomeSecurityGuru.com/FreeQuotes](http://www.HomeSecurityGuru.com/FreeQuotes)

#### 2.5 Million Volt Stun Gun

A Perfect Defense Product That CANT Be Used Against You!

[www.m-r-surplus.com](http://www.m-r-surplus.com)

#### Mini Wireless Spy Camera

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[www.DynaSpy.com](http://www.DynaSpy.com)

[EMAIL](#) [SAVE](#) [PRINT](#)

► **From the Blogs:** Controversy, commentary, and debate

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financial future.

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\$500,000 Policy  
(Monthly Premiums)**

age	male	female
40	\$20.56	\$17.94
45	\$31.06	\$27.13
50	\$45.06	\$38.06
55	\$77.00	\$56.88

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**free** life insurance  
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**CLICK HERE**

**ACQUQUOTE**  
Saving You Money For Life

**Most Popular on CNN**

# Targeted Ads gone wrong (3)



[http://purethinking.typepad.com/pure\\_thinking\\_a\\_streamofc/2009/08/targeted-ads-gone-bad.html](http://purethinking.typepad.com/pure_thinking_a_streamofc/2009/08/targeted-ads-gone-bad.html)

# Targeted Ads gone wrong (4)

The screenshot shows a Yahoo! News page with the headline "Body parts delivered to Michigan home" circled in red. The article text describes how two packages containing human body parts (a liver and a head part) were mistakenly delivered to a home in Cascade Township, Michigan, by a DHL driver. A handwritten-style advertisement for UPS is overlaid on the right side of the article, with the text "It's UPS early morning delivery." and "« Rollover for video." circled in red. The advertisement also features the UPS logo.

**YAHOO! NEWS** Welcome, [User] [Sign Out, My Account] [News Home](#) - [Help](#)

Home U.S. Business World Entertainment Sports Tech Politics Science Health Travel Most Popular

Photos Opinion Local News Odd News Comics Weather Full Coverage Video/Audio You Witness News Site Index

Search: [ ] All News [v] Search Advanced

**Body parts delivered to Michigan home** **AP** Associated Press

1 hour, 23 minutes ago

**ELSEWHERE ON THE WEB**

**CNN.COM**  
Roadside bombs target Iraqi police, officials say

**ABC NEWS**  
In Wealthy Santa Barbara, Some Call a Parking Lot 'Home'

**THE CHRISTIAN SCIENCE MONITOR**  
Need barbed wire? Try the concierge.

**CNN.COM**  
**Offbeat News**  
Get the latest news, photos and video of the funky, and weird.  
» More at CNN.com

**USATODAY.COM**  
**Offbeat Digest**  
Latest news on the strange, quirky and just plain odd.  
» More at USATODAY.com

**CASCADE TOWNSHIP, Mich.** - Two packages containing human body parts — including a liver and part of a head — meant for a medical research lab instead were delivered to a home.

**ADVERTISEMENT**

The body parts, sent from China, were mistakenly dropped off Thursday at Franck and Ludvine Larmande's home by a DHL express driver who believed the bubble-wrapped items were pieces to a table.

"My husband started to unwrap one and said, 'This is strange, it looks like a liver,'" Ludvine Larmande said. "He started the second one, but stopped as soon as we saw the ear."

"Something wasn't right, it was scary, and I'm glad I didn't open them."

The couple called Kent County sheriff's deputies, who determined the preserved body parts were for medical research, Lt. Roger Parent said.

Authorities believe 28 more bubble-wrapped human organs and body parts could be dispersed across the country, The Grand Rapids Press reported. Two of five packages headed to the northern Michigan lab broke open, scattering their contents.

"There will definitely be a shock to people if they see these things, but there is no hazard to health," Parent said.

**ups**

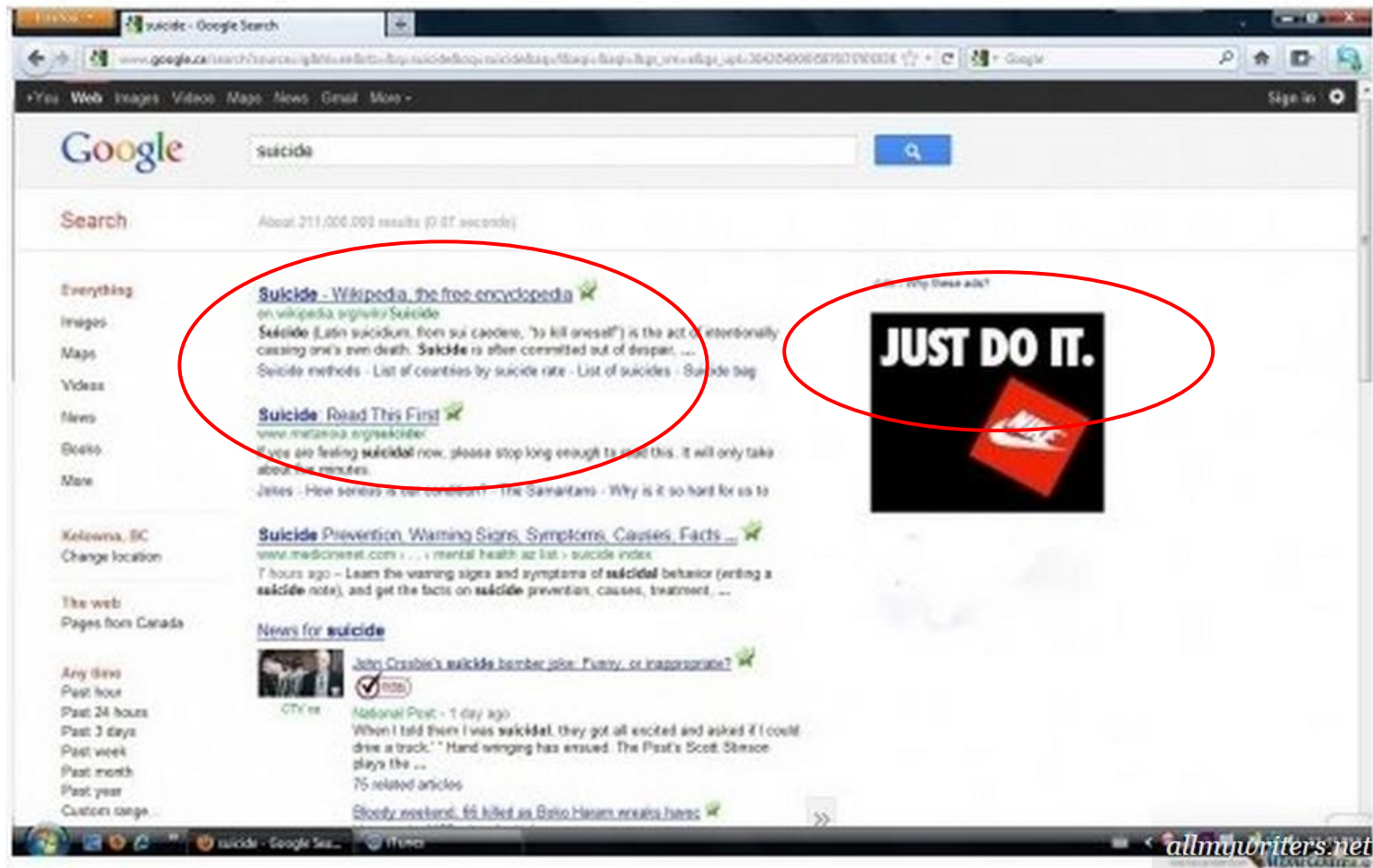
It's UPS early morning delivery.

« Rollover for video.

Yahoo



# Targeted Ads gone wrong (5)



# And one more - Targeted Ads gone wrong (6)

<http://www.chicagotribune.com/news/nationworld/chi-0504250109apr25,1,4214950.story?coll=chi-newsnation>

**ACROSS THE NATION**

**Skydiver dies after legs severed in midair**

Items compiled from Tribune news services  
Published April 25, 2005

DeLAND, FLORIDA -- A skydiving cinematographer was killed after his legs were severed in a midair collision with the airplane he had jumped from, authorities said.

Albert "Gus" Wing III, 50, had deployed his parachute Saturday when he struck the left wing of the DHC-6 Twin Otter propeller plane at about 600 feet, a witness on the ground told police.

Both of Wing's legs were severed at the knees.

He was airlifted to a hospital, where he died, DeLand Police Cmdr. Randel Henderson said.



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AA.com



- Study on how privacy regulation might impact economic activity on the advertising-supported Internet:
  - Avi Goldfarb, Catherine E. Tucker (2011) Online Advertising, Behavioral Targeting, and Privacy, Communication of the ACM (54:5), New York, USA.
- Comparison of Online Advertising effectiveness on websites within the EU (under EU regulation) and outside the EU.
- Due to EU regulations, advertising networks are no longer allowed to collect and link certain information about online user behaviour.
- As a result, advertising effectiveness dropped by up to 66% on European websites.



- Each advertiser is affected differently by the same regulation
- Advertisements on websites with a high diversity of content (e.g. news portals) are more affected by dropping advertising effectiveness than highly specialised websites (e.g. travelling portal), which focus only on a few topics.
- Why?

# Impacts of Lack of Personal Data on Advertising Business (due to Default Tracking Protections)

- Theoretical issues of switching on Tracking Protection by Default
  - Online/mobile advertising businesses lose their data for targeting advertisements
  - Advertisers have to cope with incomplete, varying data which makes targeting more difficult
  - Increasing use of content-based targeting with lower targeting efficiency
- Possible consequences
  - Lower number of ad-financed online/mobile services
  - Users have to pay for digital services (“Bezahlschranke”)
  - Lower offered service quality
  - Unavailability of certain services



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- If users no longer feel in control of their personal data, they could ...
  - ... stop trusting online services and refrain from using them
  - ... give up caring about their privacy and security because they feel helpless
  - ... no longer behave in a natural way because they may feel “under surveillance”
  - ...
- Consequently, this would negatively affect the digital economy as well as the society as a whole





Personal data of users „can“ be protected by

- Regulation / Data Protection Law
- Technical Data Protection
- Privacy by Design



But what are the challenges / outcomes of these approaches for users and digital businesses?

Apropos, what is the role of *trust* by users in this context?



- Regulation provides only a very basic protection because it needs to address the demands of as many as possible organisations within EU.
- Regulation is often unclear or interpreted in many different ways by authorities.
- Regulation has to be enforced, which is often slow or even sometimes too late.



- Self-Regulation of an industry is better than regulation by law
- Self-Regulation is often difficult to audit and not transparent enough
- Self-Regulation as means to avoid regulation by law?

- Indicators that regulation affects Online business or at least the advertising industry exist
- Regulation has many issues, but regulation is necessary and also beneficial as it
  - provides enforceable basic data protection framework
  - provides data processing guidelines for organisations
  - generates awareness in the population about data protection



- Individuals have to be *aware* about privacy threats. However,
  - this often requires technical understanding
  - data flows exchanged with online services are often not transparent to a user
  - data flows transparent to users are often too complex for them to understand (e.g. logs files)



- Protection of personal data by individuals always **takes effort**, e.g.
  - installing and understanding technical solutions (e.g. browser plug-ins)
  - accepting lower service quality due to lack of data because of technical solutions (e.g. slow webpage loading time because used proxy servers)
  - maintaining privacy settings for online/mobile services
  - because data protection can currently not be centrally managed (availability of multiple devices, services, data flows which have to be managed)
  - consciously limiting data disclosure or service usage



ChristArt.com

- In order for individuals to take up this effort, they need to receive **directly perceivable benefits or incentives** in exchange, e.g.
  - Protection from possible data disclosure consequences
    - Disclosure of embarrassing pictures on social networks
  - Protection from manipulation of behaviour, e.g.
    - getting lured into buying certain products
    - influencing one's opinion on something





- Privacy settings of Social Network sites are often very complicated and hard to find.
- Users mostly stick with the default privacy settings. Thereby, users often simply do not post certain things instead of restricting their disclosure via configuration of privacy settings.
- Social Network sites often lack of real-time feedback for applied privacy protection settings.
- Note: Privacy settings do not apply for social network site providers, they have in general access to all posted personal data anyway.



- Default settings hardly get changed by users. Therefore these settings are very powerful mechanism for those controlling the default settings.
- Examples: Consequences of
  - turning on tracking protection lists for the Internet Explorer by *default*?
  - Facebook changing of *default* privacy settings (<http://mattmckeeon.com/facebook-privacy>)?



- Web Tracking Protection is technically easy
  - Internet Explorer has build-in Tracking Protection
  - Tracking Protection is available via Browser Plug-Ins
  - Some browsers support the DoNotTrack flag
- ... but who is going to maintain the tracking protection lists used to block the trackers?
- In addition, Tracking Protection ...
  - ... does not really work on mobile devices for web apps
  - ... mobile browsers typically don't support plug-ins
  - ... mobile apps are more relevant than browser apps
    - Mobile apps have trackers directly integrated





- Technical Data Protection takes effort and requires knowledge without users being able to perceive direct benefits
- **Missing mental link for users** between privacy protection and the availability of free services
  - For instance, a user blocking the tracking of his web online behaviour does not experience any direct disadvantages with regard to free services.
- **Mental link does exist** for privacy protection against other users of a Social Networking site,
  - For instance, a user posts a picture which was intended only for a limited audience but was leaked due to sloppy privacy settings.
  - But this constitutes only data protection towards other users and NOT towards the service provider as well.

- Privacy by Design advances the view that the future of privacy cannot be assured solely by compliance with regulatory frameworks; rather, privacy assurance must ideally become an organization's default mode of operation.

Ann Cavoukian,  
Information & Privacy Commissioner Ontario, Canada

# Privacy by (Re)design Principles

1. Proactive not Reactive; Preventative not Remedial
2. Privacy as the Default Setting
3. Privacy Embedded into Design
4. Full Functionality – Positive-Sum, not Zero-Sum
5. End-to-End Security – Full Lifecycle Protection
6. Visibility and Transparency – Keep it Open
7. Respect for User Privacy – Keep it User-Centric

Ann Cavoukian,  
Information & Privacy Commissioner Ontario, Canada



- No incentives for online business to do Privacy by Design
  - Users are not demanding it
  - No competitive advantage for businesses
  - Regulatory does not directly demand it, yet
- Open Question: Which personal data is exactly required to run a service such as Google Search or Facebook?
- There is so far no real best practice/approach to develop online services based on Privacy by Design principles



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# Privacy (Protection) Challenge

- Users demand privacy but the effort to protect this privacy is often too high.
  - How to reduce/minimize this effort?
- Digital Businesses have no actual incentive to protect the privacy of their users.
  - How to motivate them to do so?

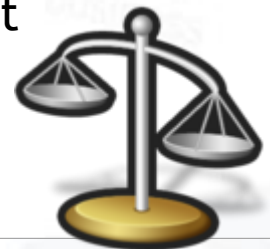


## User gives up Privacy very easily

### Privacy Paradox and Privacy Calculus Examples

When disclosing personal data offers direct benefits or privacy protection takes to much effort, users give up on privacy very easily:

- Microsoft Study: Users willing to receive Targeted Ads (80%), to be tracked (30%)
- Privacy-aware users preferring Google Service Engine over privacy-friendly Search Engine IxQuick (ULD certified)
- Continuous media coverage of privacy issues of smart phones (e.g. leaked location data, usage tracking, cloud sync, forced user authentication or registration, etc.), but still increasing sales
- Privacy issues in mobile apps (e.g. WhatsApp is one of the most popular mobile messenger apps - but at the same the most unsecure and privacy invasive). Who cares?





- Provider-driven
  - Apple
    - Tracking Protection in Safari, Device ID Prevention, One-Stop Tracking OO
  - Microsoft
    - DNT by Default in IE10, Tracking Protection Lists
- User-driven
  - Facebook Privacy Scanner (Transparency)
  - Ghostery (Transparency)
  - Adblock Plus (Privacy-Enhancing)
  - Bitcoins (Privacy-Enhancing)
- Why does it work?



- So far, offering privacy-friendly services does not constitute a competitive edge for Online Businesses
  - Selectively collecting personal data from users generates additional effort/costs
  - Privacy Protection leads to less personal data
  - Privacy Protection generates additional efforts for users
  - ...
- Consequently, for Online Businesses *privacy protection* often equals *costs*
- From an economic perspective *costs* have to be minimized
- Minimizing *costs* equals minimizing *privacy protection*
- Minimum *privacy protection* equals *regulative requirements*





- Competition on Privacy
  - does most likely not generate any additional revenues
  - but can drive Online Businesses to continuously offer and excel on privacy protection (beyond regulation)
- Approach
  - Minimize user effort through Identity Management at the heart of business models
  - Enabling Online Businesses
    - to offer perceivable privacy
    - Handle less personal data (if necessary)
- Why are some digital businesses (e.g. Apple) seem to protect the privacy of their users while others don't?

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- Peer-to-Peer Payment System
  - Based on digital/virtual „crypto-currency“
  - All transactions are stored in public, decentralised database
  - No regulating/controlling authority
  - Users/transactions can only be identified by their unique addresses
  - For privacy, addresses should be renewed for each transaction

## ■ AdBlock Plus

- Offers browser add-on that blocks Web advertisements.
- Free for users, highly effective



## ■ *Controversial* two-sided Business Model

- **Internet User:** Free browser add-on that blocks Web advertisements
- **Ad Industry:** Has to pay to get their ads on the AdBlock Plus exception/white list



# AT&T offers its customers to buy their Privacy (at a premium)

The screenshot displays the AT&T U-verse website. At the top, a woman is shown with the text "Awesome in Austin!" and "U-verse with AT&T GigaPower". Below this, a "Check availability" button is visible. The main content area features three service plans, each with a red circle highlighting the price and a red arrow pointing to the "Privacy incl. in Service ..." text:

- SINGLE PLAY \$70/mo**: For 36 months, 1 yr. term req'd. Geo. & svc. restr. apply. Internet 1Gbps.
  - Internet speeds now up to 1Gbps
  - Installation and equipment included
  - Same great price for 3 years--guaranteed!
- DOUBLE PLAY \$120/mo**: For 36 months, 1 yr. term req'd. Geo. & svc. restr. apply. Internet 1Gbps + TV.
  - Internet speeds now up to 1Gbps
  - HBO® included for 36 months
  - Installation, equipment, and svc.
  - Same great price for 3 years--
- TRIPLE PLAY \$150/mo**: For 36 months, 1 yr. term req'd. Geo. & svc. restr. apply. Internet 1Gbps + TV + Voice.
  - Internet speeds now up to 1Gbps
  - HBO® included for 36 months

Below the plans, the "Customer Agreements & Acknowledgements" section is shown. A red circle highlights the "Consent to AT&T Internet Preferences" checkbox, which includes the following text:

☐ **Consent to AT&T Internet Preferences:** In exchange for the monthly discount available with AT&T's Premier Offer, I agree to AT&T's use of my web browsing information (like my search terms and the web pages I visit) to send me advertising and offers from AT&T and participating providers for products and services that are tailored to my individual interests. This consent supersedes any prior email unsubscribe notification I may have with AT&T. I agree to explain to family members and other users of my U-verse with GigaPower service that information about their web browsing activity also may be used to provide individually tailored ads and offers. More on AT&T Internet Preferences. [AT&T Internet Preferences FAQs](#)

Below this, there is another checkbox:

☐ I have read and agree to the [AT&T U-verse Terms of Service](#)

At the bottom, there are "Cancel" and "Continue" buttons.

Privacy incl. in Service ...

## Outline of Offerings

- SMBs as target customers
- DT as Trust Provider with strong brand
- Location in Europe/Germany
- Single point of contact/contract for customers (“Stand in front“)
- Leveraging existing customer base (e.g. billing/payments via DT Fixed Line bill option)
- Sophisticated internet infrastructure
- Offering the hosting of software applications in own cloud
- ...

# SELECTED SOFTWARE APPLICATIONS GERMAN & INTERNATIONAL PARTNERS

ALL APPLICATIONS  
OFFER A 30 DAYS TRIAL!



iMeet



APG



eZ Systems



Symantec



TecArt



Scopevisio



ZEP



weclapp



weclapp



Box



iBROWS



Strato



IQUADRAT



Microsoft



weclapp



Symantec



iBROWS



WICE



weclapp



weclapp



Strato



Scopevisio



iBROWS

# CENTRAL APPLICATION COCKPIT FOR USERS, ADMINS AND COMMERCIAL MANAGERS



ERLEBEN, WAS VERBINDET.

# TELEKOM AS PARTNER FULL SERVICE FROM ONE PROVIDER

## TELEKOM OFFERS END-TO-END- RESPONSIBILITY

SINGLE  
CONTACT

FULL  
SUPPORT

OPERATION &  
HOSTING

SOFTWARE  
MAINTAINANCE

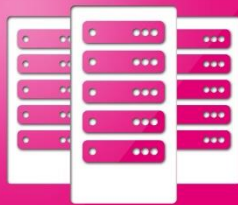


ERLEBEN, WAS VERBINDET.



# MAXIMUM SECURITY & DATA PROTECTION

## TELEKOM DEFINES STANDARDS



**HIGH-SECURITY  
DATA CENTERS**



**PENETRATION &  
SECURITY TESTS**

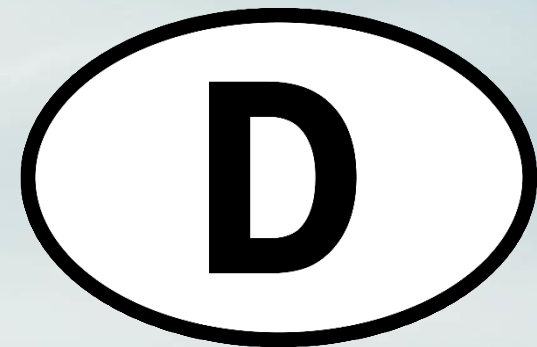
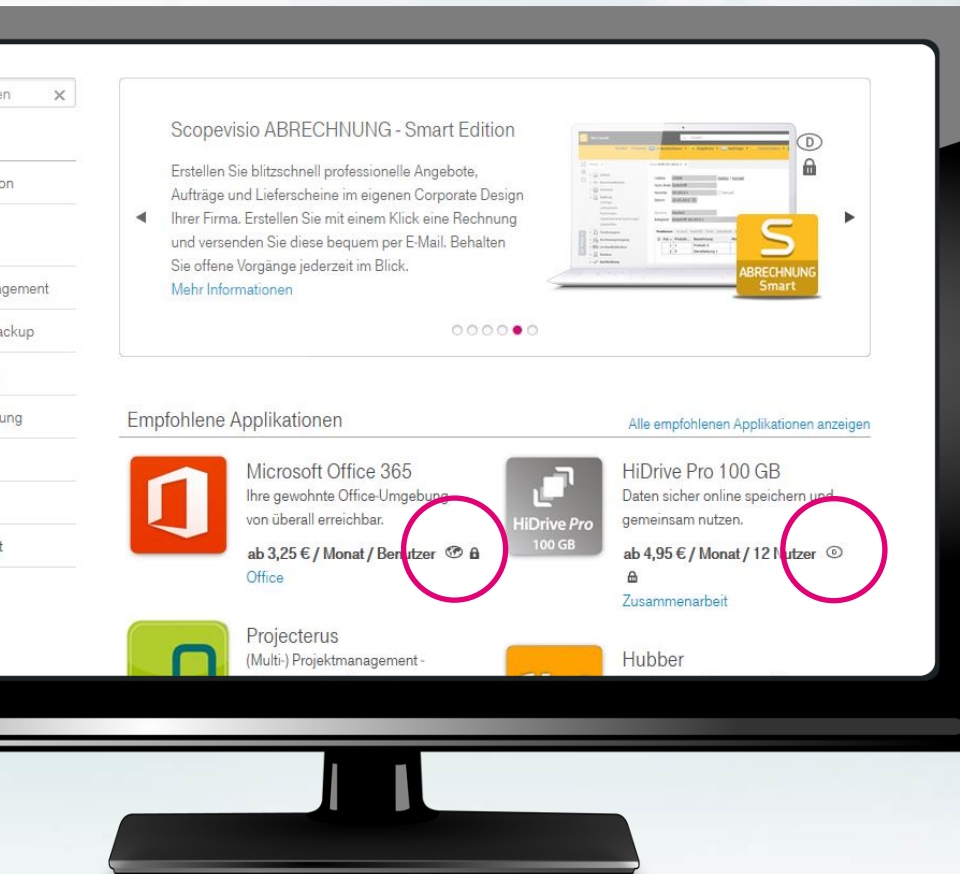


**TRANSPARENCY  
DATA LOCATION**



ERLEBEN, WAS VERBINDET.

# FULL TRANSPARENCY CUSTOMERS KNOW, WHERE THEIR DATA IS



# BUSINESS MARKETPLACE

## OVERVIEW OF ALL BENEFITS



- Avi Goldfarb, Catherine E. Tucker (2011) Online Advertising, Behavioral Targeting, and Privacy, Communication of the ACM (54:5), New York, USA.

