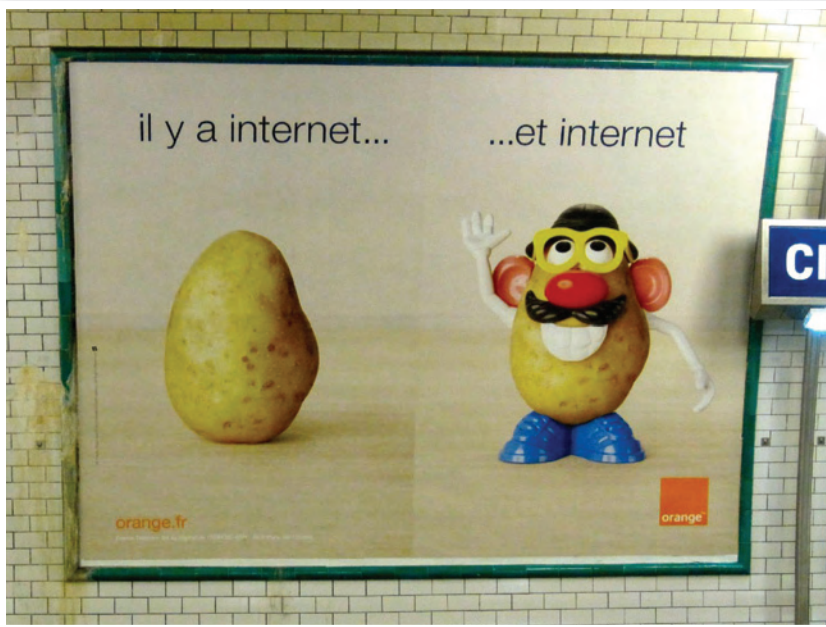


# 16. Attention please – Privacy in Business Models

André Deuker, Goethe University Frankfurt



mobile business

There was Internet...

orange.fr

**User = Consumer of Contents**

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There was advertisement...

10:00

10:30

10:41

10:59

11:00

Goal A.  
Towards privacy-friendly  
Identity Management

**Attention please  
– Privacy in  
Business  
Models**

**SPEAKER:**  
André Deuker, Goethe University Frankfurt

mobile business

**Attention Please  
Privacy Awareness in Business Models**

PrivacyOS Conference Vienna  
25<sup>th</sup> to 27<sup>th</sup> October 2009

André Deuker  
Chair of Mobile Business & Multilateral Security  
Johann Wolfgang Goethe-University Frankfurt

PRIVACY OS



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... and there is Internet

orange.fr

**User = Consumer & Creator of Contents**

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...and there is advertisement

Knowledge

Relevance

Attention

Revenue

André Deuker, PhD student to the Goethe University Frankfurt/Main is researching on the multilateral design of privacy awareness, taking into account the interests of all stakeholders.

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A (rather small) case study...

Who is willing to pay for privacy vs. Who is willing to pay for services

As Attention is to be regarded as a scarce resource, privacy concerns have to compete for attention with personalized advertising in common ad-based revenue models as found in the Web 2.0.

The speaker's findings are based on the assumption that raising demand for privacy is equal to raising awareness for privacy topics. Raising awareness can take place on a general level, e.g. by data protection authorities and the provision of brochures, lectures, and the education of teachers, parents, and children. But raising awareness can also take place in an application specific context just in the moment when users are interacting with an application. Providers could be motivated to implement awareness either by legal obligation or by economic incentives.

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### Case Study

Who is willing to pay for privacy vs. Who is willing to pay for services

facebook	safebook
Social Network Service	Collaborative Social Network Service
Monolithic Design	Distributed P2P Design
Revenue Model: Advertisement	Revenue Model: Subscription (?)
Vulnerability to breaches of privacy	Privacy preserving

Claim to fame:

- Service based on network effects
  - Service Utility = f(number of users)
  - Critical Mass
- Disclosing personal information is part of the game

„Average users do not care about protecting their privacy“  
 „There is no market for privacy protection in context aware services“

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### Demand for Privacy and the Privacy Paradox

**Privacy Paradox:** Discrepancy between users privacy needs formulated on an abstract level and their actual behaviour of interaction with context aware services.

↓

Utility  $\leq$  Benefit - Costs

→ Monetary Costs  
→ Risks

Systematic under-assessment of costs; biased decision

- Users have to be enabled to fully assess costs that are related the usage of context aware services.
- Demand for privacy preserving mechanisms is (artificially) lower than it should be

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### 3 Dimensions of the Privacy Paradox

- Incomplete Information**
  - Incomplete Information about disclosed data
  - Incomplete information about consequences of disclosed data
- Bounded Rationality**
  - Wrong or biased conclusions in spite of complete information
- Psychological Factors**
  - Users draw less attention to privacy risks than to other types of risk
  - Immediate gratification can influence users' risk perception

## Raising Privacy Awareness to address the privacy paradox

### Privacy Awareness:

Awareness of what data is disclosed and what consequences/risks this might bear.

A precondition for the employment of PETs:

- Identification of risks
- Assessment of risks



→ Users need to be motivated to address their own limits of risk perception.

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- Attention is a scarce resource
- User Information = Relevance = Attention = Revenue!
- Many business models require information about their users & can exist with limited privacy protection
- Artificially low demand for privacy due to the Privacy Paradox (PP)

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## How to Raise Privacy Awareness?

On a general level:

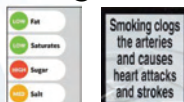
- Tutorials, Talks, Campaigns

On an application level:

- Before using the service
- While using the service



→ Informing & Warning



## Challenges for Privacy Awareness on an Application Specific Level

**Technical:** How can/should privacy awareness be integrated in context aware services?

**Organisational:** Can privacy awareness be integrated into business models?

- More parties involved than in the process of raising application independent privacy awareness.
- Interests of all involved parties have to be considered and harmonised
- Legal Obligation vs. Economic Incentive

cash flow, retention rate (switching costs), data

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Users will provide less, or incomplete information when they are concerned about their privacy.



Independent of this service, provided personal information can be misused, e.g. to create tracking profiles.

Raising privacy awareness within context aware services seems to contradict the service provider's interests.

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*H1: To overcome the privacy paradox, raising privacy awareness on an application specific level should be closely connected with raising knowledge about methods and tools essential to satisfy needs with regard to the protection of privacy in a meaningful way.*

- Awareness of problems + Awareness of possible solutions
- Users have to be provided with means to satisfy raised privacy needs, otherwise they will abstain from providing personal information

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*H2: Raising privacy awareness in connection with providing privacy enhancing technologies on an application level can strengthen the relationship between user and provider of a services.*

*H3: The combined approach of raising privacy awareness and providing means to react will result in a higher disclosure of personal data and retention rate.*

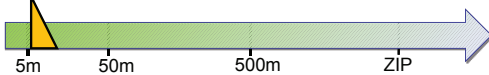
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Independent of this service, provided personal information can be misused, e.g. to create tracking profiles.



Please adjust the precision of location information you provide to the service.



Users have to be provided with means to satisfy raised privacy needs, otherwise they will abstain from providing personal information.

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### Potential Effects

- Changing attitudes towards competitive, less privacy sensitive, services.
- Higher Retention Rate
- Disclosure of additional information

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### Summary



- *Attention is a scarce resource*
- *User Information = Relevance = Attention = Revenue!*
- *Many business models require information about their users & can exist with limited privacy protection*
- *Artificially low demand for privacy due to the Privacy Paradox (PP)*
- *Privacy Awareness in Business Model Architectures*
  - *Legal obligation vs. Economic incentives*
- *Conflict of Interest → Design of Privacy Awareness*
  - *Expanding the Concept of Privacy Awareness*

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Thank you for your attention!

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