Online Privacy Agreements, is it Informed Consent?

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Privacy is a complex, multifaceted concept
- Although privacy been an important topic throughout history, recent advances in information technology have raised levels of concern to an all-time high.

Different notions of privacy
- Privacy as a negative freedom – freedom from something, rather than a right
- Secrecy paradigm – privacy applies to things that are secret
- Invasion paradigm – privacy violation is an invasion of a specific interest
- Inaccessibility – privacy is where the subject is inaccessible to others
- Privacy viewed as constitutional and human right

Scholars have conceptualized “privacy” in many different ways:
- “The right to be left alone” (Warren and Brandeis, 1890)
- “A self-serving economic good” (Richard Posner, 1978)
- “Contextual integrity” (Helen Nissenbaum, 2003)
- A taxonomy of different, yet related problems (Solove, 2009)

Decisional privacy, physical privacy, proprietary privacy, informational privacy
Privacy in the Cloud

- Today, cloud service providers claim that their customers are providing *informed consent* by accepting privacy policies and terms of service agreements.

- By clicking “accept”, consumers are providing cloud service providers with legal rights to use their information for a variety of purposes, such as:
  - Publishing, publicly displaying, or distributing content uploaded by users
  - Reproducing or modifying works of content uploaded by users
  - Searching through content uploaded by users to find keywords that can be used as the basis for displaying targeted advertisements
  - Sharing user uploaded content with government agencies and other third parties
Overview of Past Findings

- Companies generally include similar provisions in their policies

- Companies tend to be more vague about the control that customers can exercise over their own data compared to the control that the company can exercise over that data

- Companies that rely on advertising revenue to provide free or cheap cloud services often include a number of provisions giving the company more options for what to do with customer information

- Overall, findings indicate a need to assess:
  - consumer choice
  - informed consent
  - data withdrawal rights
  - data portability rights
  - policy-based competition
In the U.S., the legal system surrounding information privacy is based on *fair information practices (FIPs)*.

There are five main principles often used in the U.S.:

1. **Notice**
2. **Choice/Consent**
3. Access to data/participation
4. Data Integrity/Security
5. Enforcement (i.e. self, third-party, or government regulation)

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**Informed Consent**—“the process by which a fully informed user participates in decisions about his or her personal data” (van der Geest et al., 2005, p. 7)

Five principles of informed consent:

1. Disclosure, **Comprehension**, Voluntariness, Competence, Agreement
Our Research Questions

- What does the average person know about online privacy?
  - What do consumers understand about cloud computing, online security, online advertising, and privacy law?
  - Do consumers understand how their personal information is used by cloud service providers behind the scenes?
  - Are consumers concerned about the availability and distribution of their personal information?
  - If consumers were more informed, would they make different decisions?
Our Research Design

- Two-part online survey:
  1. **Knowledge**
     - Demographics
     - Third-person scenarios with multiple choice and true/false
     - Confidence ratings
  2. **Opinions**
     - Demographics
     - Questions about online behavior
     - Likert scales, third-person scenarios

- Distributed in primarily academic settings
Knowledge Survey Overview

- **Five sections**
  1. Cloud computing
  2. Online security
  3. Economic aspects
  4. Educational records (FERPA)
  5. Legal aspects of online privacy

- **Demographic overview (n=455)**
  - Gender: 55% female, 45% male
  - Religion: 52% religious, 34% non-religious
  - Relationship Status: 43% single, 33% dating, 25% married
  - Age: 37% between 18-21 years, 28% between 22-29, 16% between 30-39, and 19% were 40 or older
What is "Cloud Computing?"
Mean Knowledge Scores by Section

- Error bars represent ±1 standard deviations
Opinion Survey

Four Sections
1. Online behavior
2. Personal privacy
3. Cloud service providers
4. Government surveillance

Demographic overview (n=759)
- Gender: 62% female, 36% male
- Religion: 55% religious, 33% non-religious (12% missing)
- Relationship Status: 45% single, 29% dating, 22% married
- Age: 43% between 18-21, 25% between 22-29, 14% between 30-39, 17% were 40 or older
**Sample Survey of Opinions**

**Have you ever submitted information online, but wished that you did not have to? (n=727)**

- Yes: 81%
- No: 19%

**Have you ever decided not to use a website strictly because of the website’s Privacy Policy or Terms of Service...**

- Yes, multiple times: 57%
- Yes, only once: 26%
- No: 17%

**If a cloud service provider were to adopt a new policy that gives users different options for their privacy settings, would you...**

- To get fewer features in return for increased control over your personal information: 72%
- Yes, multiple times: 19%
- Yes, only once: 9%
Future Research Directions

- Human-Computer Interaction and Informed Consent – how to help consumers be more informed about what they’re consenting to when they click “I Agree”
  - Development of Educational Materials
  - Redesign of the ToS and Privacy Policy templates
  - Customized service agreements based on consumer knowledge and preferences

- Investigate potential implications of policy-level changes
  - Regulatory oversight setting a baseline for protection of sensitive data
  - Regulation requiring service providers to make higher levels of protection available to customers (could be fee-based opt-in or opt-out)
  - Standardized format for ToS and Privacy Policy templates

- Questions? Comments?