What do you mean, Privacy?

Sarah Gordon

In the next 20 minutes …

1. **Explore some important concepts of privacy**

2. **Consider some of the ways in which technology has impacted privacy**

3. **Examine the findings of our study on privacy cognitions (i.e. thinking) and behaviors**

4. **How do you stack up?**

In the next 20 minutes …

1. **How do you stack up?**

3. **Examines the findings of our study on privacy cognitions (i.e. thinking) and behaviors**

2. **Considers some of the ways in which technology has impacted privacy**

1. **Explores some important concepts of privacy**

In the next 20 minutes…

1. Explore some important concepts of privacy
2. Consider some of the ways in which technology has impacted privacy
3. Examine the findings of our study on privacy cognitions (i.e. thinking) and behaviors amongst information security professionals.
4. How do you stack up?

Yes or No

1. I have reviewed my browser privacy policy
2. I always delete unwanted cookies
3. I have read my company/school privacy policy
4. I always read privacy policies of WWW sites
5. I always read EULAs of new software before installing it
6. I always encrypt sensitive e-mails
7. I always encrypt data on my hard disk
8. I like to control disclosure of information about self and/or transactions

What is privacy, anyway?

Information about you?
Information about what you do?
Things you know?
All data you're working with?

Access to information about you?
What people do with information about you?
Freedom from being approached by others?

Literature Review

Cultural aspects of privacy
Gender issues in privacy

Where you are

- Japan
- United Kingdom
- Sweden
- Germany, UK, US
- Saudi Arabia

Who you are

What has changed?

1. **Cash transactions** → **Credit cards, phones**

2. **Postal services** → **E-mail**

3. **Filing cabinets** → **Logging, UDE**

4. **Concrete walls** → **Remote Access**

5. **General Store** → **Trojans, UCE**

6. **Weekly Brochure** → **Spy-ware, ad-ware, cookies to track**

7. **Inference** → **Data bases/data mining**

Things are getting worse….

– Malicious Disclosure

- Remote access Trojans
- Viruses, Worms. Blended Threats
- Outright Theft

–Inadvertent Disclosure

- Many WWW sites collect personal information
  - Name, e-mail address, postal address
  - Gender, product/service/settings/preferences
- Some WWW sites give away, or sell information

DEFCON

- **Technical Solutions**
  - Browser Privacy
    - P3P, Enterprise Security Management Tools
  - Cookies
    - Destroy when no longer used
  - EULA
    - Read and Understand
  - WWW site privacy policies
  - Trojans
  - Viruses
  - Blended Threats

Antivirus, Firewall, IDS

How are we doing?

Study Goals

1. **Determine if privacy was important to Information Security Professionals**

2. **Determine if functional behaviors related to specific privacy enhancing actions reflected the importance or lack thereof.**

Operational Definition of Privacy

"Control over the disclosure of information about self or transaction"

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The survey

- Administered to focus group
  - 67 Security/Anti-Virus professionals

- Refined
  - (P3P) > Browser Privacy Policy
  - Cookies, Site Privacy Policies, Encryption, EULA

- Administered to randomly selected individuals* at Security-Focused Conferences

*Met tests for statistical significance

Question	Group	US True	US False	UK True	UK False	EU True	EU False
I am familiar with my browser P3P.	Important	27	36	30	28	17	6
	Unimportant	2	6	2	0	0	0
I always encrypt sensitive email messages.	Important	26	37	21	37	8	15
	Unimportant	4	4	1	1	0	0
I encrypt all email messages.	Important	0	63	3	55	0	23
	Unimportant	0	8	0	2	0	0
I always delete cookies I do not need.	Important	39	24	30	28	13	10
	Unimportant	2	6	1	1	0	0
I always read the privacy policy of Web sites I visit.	Important	3	60	11	47	4	19
	Unimportant	0	8	1	1	0	0
I always read the entire EULA of new software before agreeing to install it on my computer.	Important	10	53	5	53	1	22
	Unimportant	2	6	0	2	0	0
I always encrypt data on my hard disk.	Important	10	53	10	48	1	22
	Unimportant	0	8	1	1	0	0

Analysis

The thought "I like to control disclosure of information about myself and/or my transaction"

is not reflected in the behaviors related to:

- Browser Privacy Policies
- Deletion of unwanted cookies
- Reading privacy policies
- Reading licensing agreements
- Encrypting sensitive e-mails

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Cognitive Dissonance?

➢ Conflicting beliefs & Resolving the dissonance

- Focus on the benefits of the act you have chosen
    – time saved, money saved, work accomplished
- Dismiss the benefits of what you didn't choose as unimportant
    – "no one reads EULAs", "no one would read my e-mail", "I'm not likely to get a virus", "It's not important to delete cookies".

The solution?

– Educate on the consequence of not following policy

- Time lost
- Money lost
- Work lost
- Credibility Lost
- Security Lost
- ???

The challenge

you plan to work in the security field?

- Plan and encourage healthy culture
  - Discourage inappropriate groupthink
  - Encourage taking security seriously

- Are you a Leader?

Conclusion

- **Privacy is important**
- **Impediments to privacy exist**
- **Threats to privacy exist**
- **Solutions exist**

Questions?