Using Data from Breaches

What is the User Level of Comfort?

Yingquan Yu

My story

Source: https://infosecurity.cathaypacific.com/

How many online accounts compromised through data breach?

5,575,703,782

Source: https://haveibeenpwned.com

What happen to the data that was compromised during the breach?

Most of the times become available in the black market for free/paid download

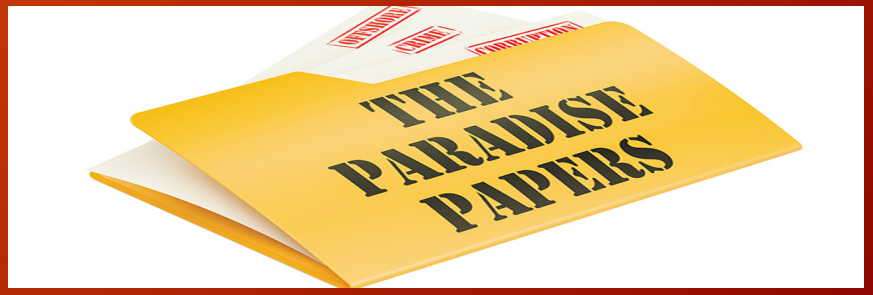
Several Use for Data from Breach

Research

Look up service

Proactive Security

Investigate Journalism



Research Questions

- Do user understand breaches ?
- What are acceptable uses for breached data ?

User understand risk of breaches

93%

Understand the meaning of data breach

- Identity Theft
- Personal Data Loss
- Monetary Loss

What is their level of comfort with various uses of breached data?

Scenario based assessment

- N = 10,000
- US, IN, DE, UK, AU, CA
- 8 scenario total, 2 scenario per participant

Sample Scenario Background

- Global Inc
- Email, Chat, Blogs, Profile Page
- Username and password stolen
- Sold on black market for $$$

- Example:
- A researcher from UIUC
- Investigate online security (password strength)
- Buy a copy from black market for research

Scenarios

Security	Investigate Journalism	Marketing	Researcher
Look Up Service: Have I been pwned	Revealing a Tax Evasion Scam	Competitor use breached data to advertise their service	Researcher use breached data for security research
Proactive Protection: Process Password Dump	Revealing Dating Site Private Profiles		
Treat Intelligence: Notify Payment Service			
Treat Intelligence: Notify Social Network Service			

Scenario: Threat Intelligence
Comfort Level: 40% Comfortable, 20% Neutral

"I don't have any issue with hacked firm contacting them. It is probably the best thing to do. They can reset my password before anyone has a chance to try and hack my account"

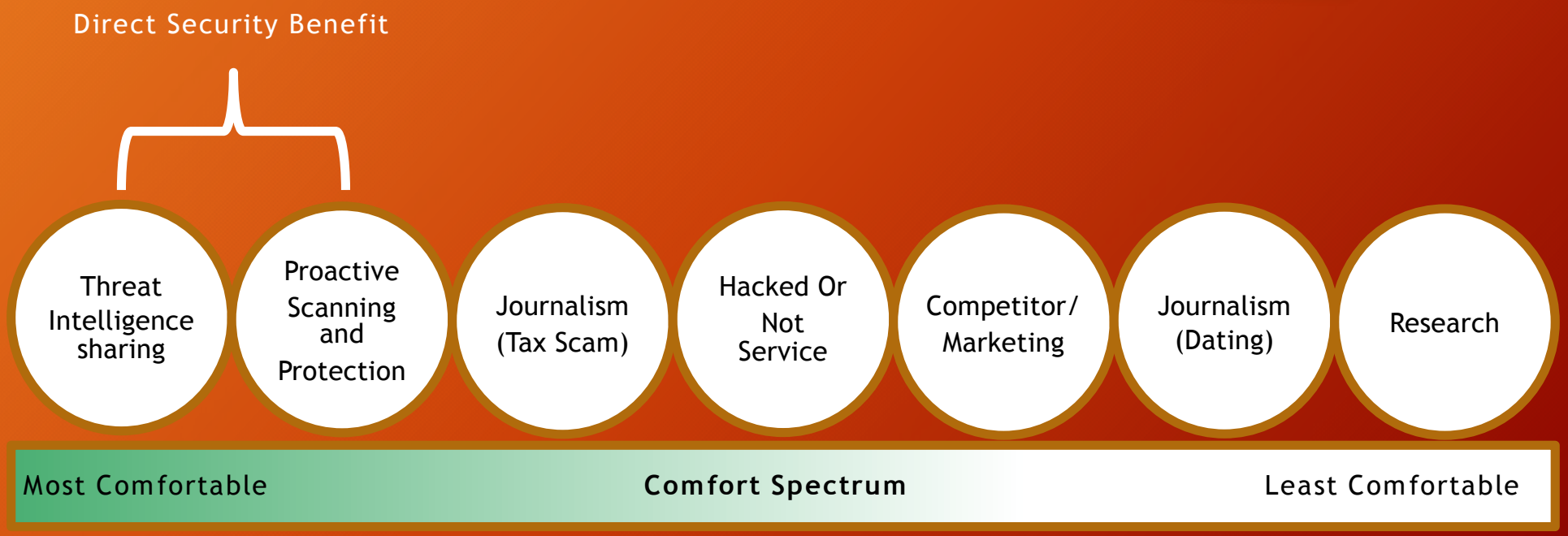
"Global Inc has already failed in securing my data, and I do not trust them to make any effort to secure my data elsewhere in the future"

Scenario: Security Research
Comfort Level: 15% Comfortable, 10% Neutral

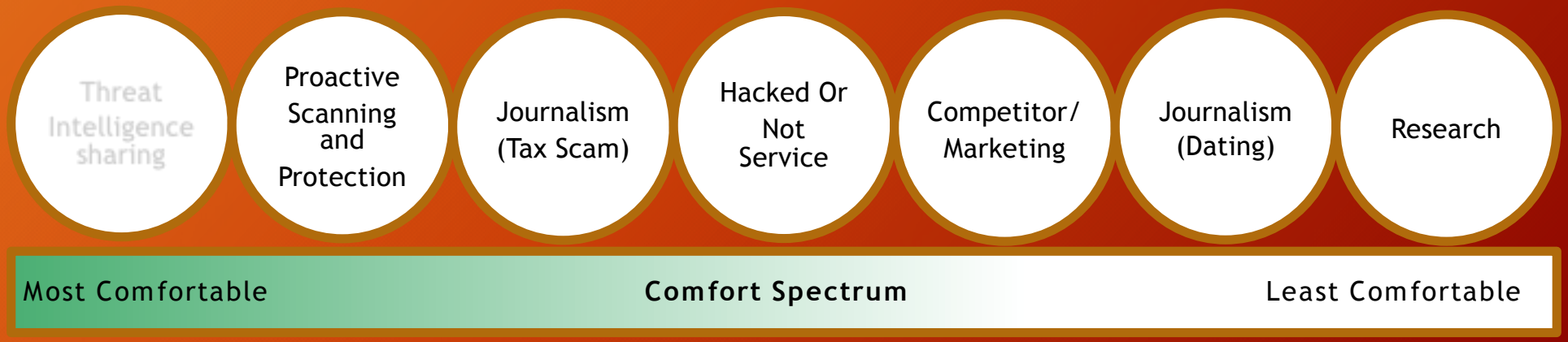
"I have faith that this action will ultimately contribute to research that will make the general population less vulnerable in the long run."

"It's incredibly unethical for the researcher to buy passwords from hackers. It's no different than someone buying a car that was stolen."

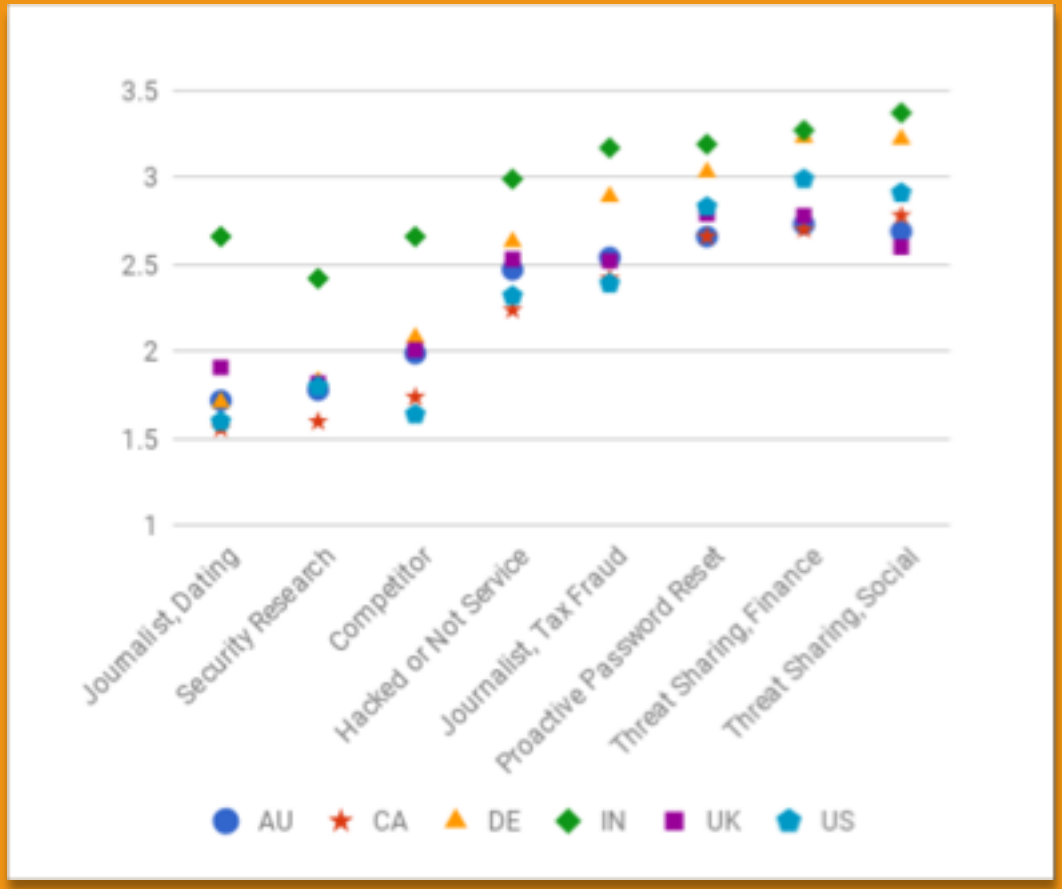
Level of comfort highest for scenarios with direct security benefit



Order Preserved Regardless of buy vs free download



Comfort Spectrum consistent across countries



Prior victims of data breach expressed significantly higher level of comfort

Victims more comfortable on

- Proactive Measures (No matter data is purchased or free)
- Damage Control Measure (Both financial and social network data)
- Hacked or not Service (Only if data is free)

Implications for company

Breached company need to be transparent and notify victims

“I think it’s imperative for the company to tell people whose data has been accessed. Companies should not control but rather empower”

Proactively reset password And lock down accounts From further damage

“This is a proactive step from the company, and one that they are not obligated to do. This makes me feel like the company cares about protecting my identify”

Articulate how any security service can provide a direct benefit to the victims

“I have faith this action will ultimately contribute to making the general population less vulnerable in the long run”

Back to my story

CATHAY PACIFIC

Source: https://infosecurity.cathaypacific.com/