Distrust of big tech and a desire for privacy: Understanding the motivations of people who have voluntarily adopted secure email

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Non-users of secure email and reasons for non-adoption

- Incomplete mental models
- Lack of motivation
- Fragmented threat models
- Inconvenience

Usability of secure email

- Early work – PGP-based secure emails systems not very usable
- Series of efforts to improve usability of secure email
- Current systems like Proton Mail and Tutanota
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Usability of secure email

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Users of secure email and their motivations

What works?
Research Questions

Motivation
Why do people voluntarily adopt secure email systems?

Threat Models
What threat models do people have?

Mental Models
What mental models do people have of secure email systems and their capabilities?

Usage
Do people use the secure email services effectively and what obstacles they encounter in trying to do so?
Methods

Screening survey
n = 1708

Semi-structured interview
n = 25
Recruitment

- Reddit
- Amazon Mechanical Turk
- Prolific
- Google Ads
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<th>Gender</th>
<th>Education Level</th>
<th>Tech Background</th>
<th>Using for</th>
<th>Frequency of Usage</th>
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Findings
Motivation
Why do people voluntarily adopt secure email systems?

Threat Models
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Mental Models
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Usage
Do people use the secure email services effectively and what obstacles they encounter in trying to do so?
Distrust of Big Tech

“Over the past few years, I’ve been trying to wean myself off of Google and other, you know, big tech products, because they are kind of, I think they’re poisoning my mind.” (R1)
Privacy

Privacy as a fundamental right
Privacy as anonymity
Privacy as secrecy
Privacy as control
Privacy as a commodity
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What could happen:
• Surveillance
  • The Five Eyes Alliance countries (Canada, Australia, New Zealand, the United Kingdom, and the United States)
• Requiring the surrender of data

Mitigations:
• Use secure emails outside government reach
• ProtonMail based in Switzerland and Tutanota based in Germany helps.
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Mentals Models

A safer, more trustworthy system
Mentals Models

A private, encrypted system
Motivation
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Usage
Do people use the secure email services effectively and what obstacles they encounter in trying to do so?
How do our participants send emails to users with non-encrypted services?
Uses go beyond just sending and receiving emails

Identity management
Email Compartmentalization
Disposable email
- Fb marketplace
- Cryptocurrency
- Gaming
Key Takeaways

Privacy is a key motivation

Privacy benefits are broad

Privacy benefits can be expanded
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