“It’s the Company, the Government, You, and I”: User Perceptions of Responsibility for Smart Home Privacy and Security

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Smart home devices commonly attacked

TECHNOLOGY

Millions of homeowners exposed after smart home devices commonly attacked

Confirmed: 2 Billion Records Exposed In Massive Smart Home Device Breach

Wyze Labs, a startup confirmed a data breach

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Privacy violations often make the news

'Alexa, are you invading my privacy?' – the dark side of our voice assistants

Amazon’s Alexa Never Stops Listening to You. Should You Worry?

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Users struggle to configure them

10 Ways to Strengthen Alexa Privacy and Security

How to Use Ring’s Control Center for Better Privacy and Security

CR explains how to use the Control Center settings, including the ability to opt out of law enforcement video requests and keep your privacy.

Update your Amazon Alexa settings to make your smart speaker a bit more secure.


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Common research: User configurations

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But what do users think who should do this?

**RQ 1:** Who do users think is responsible for the privacy and security of their smart home devices?

**RQ 2:** What is the relationship, if any, between perceptions of responsibility, concern, and taking mitigative action?
Methodology

Purposive sampling
Requirements: active users of at least 2 smart home devices
40 participants, mainly in DMV metro area
Variation in age, gender (22 men, 18 women)

Semi-structured interviews
Questions about
- concerns,
- mitigations,
- responsibility for smart home device security and privacy

Qualitative analysis
Qualitative, inductive and deductive coding
Came up with themes for responsibility
Discussed implications grounded in our data
Results
Majority had at least some concerns about the security & privacy of their devices

BUT, roughly a third were not concerned

Most mitigations were simplistic or non-technical in nature
Concern doesn’t necessarily translate into action

It’s a tradeoff.

I don’t know if or how I can.

Everything’s already out there.

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Who do you think is responsible for protecting the privacy of information collected by your smart home devices?

Who do you think is responsible for the security of your devices?

Responsibility

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Responsibility: Personal/Users

Privacy: 18   Security: 28

Accountability for accepting risk
If you don’t want your stuff exposed, you shouldn’t have those devices in your home to begin with. (P35_A)

Justification for inaction
I’m not going to educate myself on network security...I’m very accepting of the fact that it is what it is. (P8_A)

Active, obligatory role
I feel like the default is always full access, so you have to really look for and pursue stricter settings. (P18_A)

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Responsibility: Manufacturers

**Privacy: 28**  **Security: 30**

**Obligation to consumers**

They need to do everything [since they are] taking so much money for all that. (P9_A)

**Some trust manufacturers**

If they have a bunch of massive security breaches, people are going to stop buying their products. So, our interests are aligned there. (P17_A)

**Others lack confidence**

I don’t have much trust in what companies say they collect and don’t collect. I think they collect what they can and use it. (P10_A)
Responsibility goes on the government to protect your citizens...There’s other safety precautions put in other industries. I don’t see why that shouldn’t be something applied to this industry as well. (P29_A)

We’ve got to do something to protect people’s information, or at least make them more aware of what exactly is being utilized and sold. (P31_A)
I’d like to see the vendors take more responsibility and take more action to secure their own devices. But because they don’t always do that, and I don’t always necessarily trust them to do that, I take it upon myself to be responsible for the security of these systems.

(P15_A)
Implications
Conclusion: Smart Home Security & Privacy Responsibility

Qualitative study with 40 smart home users

Responsibility shared by users, manufacturers, third parties/government.

Opportunities for collaboration and support

Thank you! Questions?

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