



# Consumers Perceptions of IoT Privacy and Security

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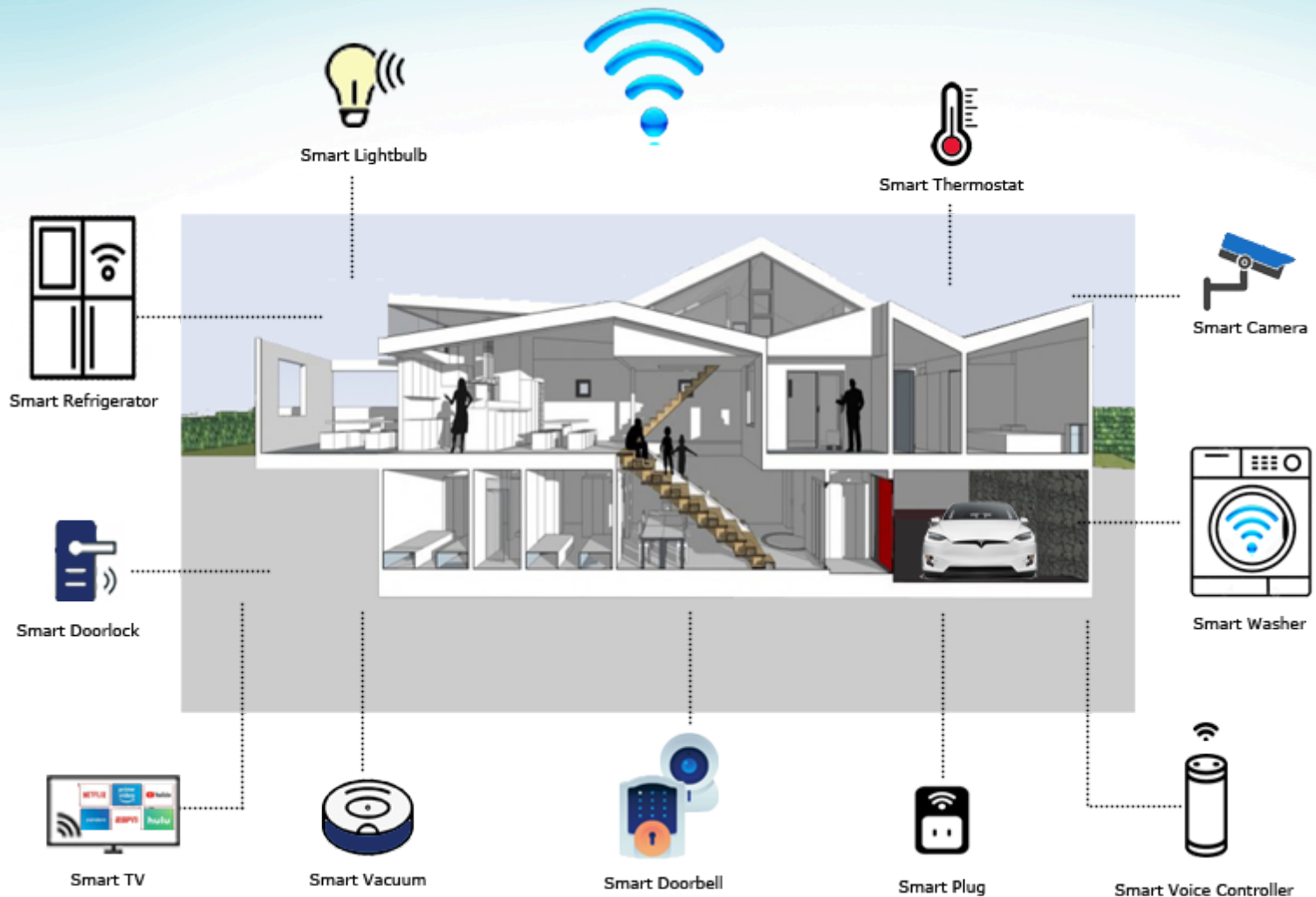


# Non-technical users face many challenges with IoT (smart home) devices.

- **Purpose:** To understand consumers experiences with and perceptions of smart home devices.
- Conducted 40 semi-structured interviews
  - Participants were active users of at least 3 smart home devices
  - Interviews lasted about 50 minutes and were audio-taped
  - Tapes were transcribed
  - Research team created and operationalized 18 major codes

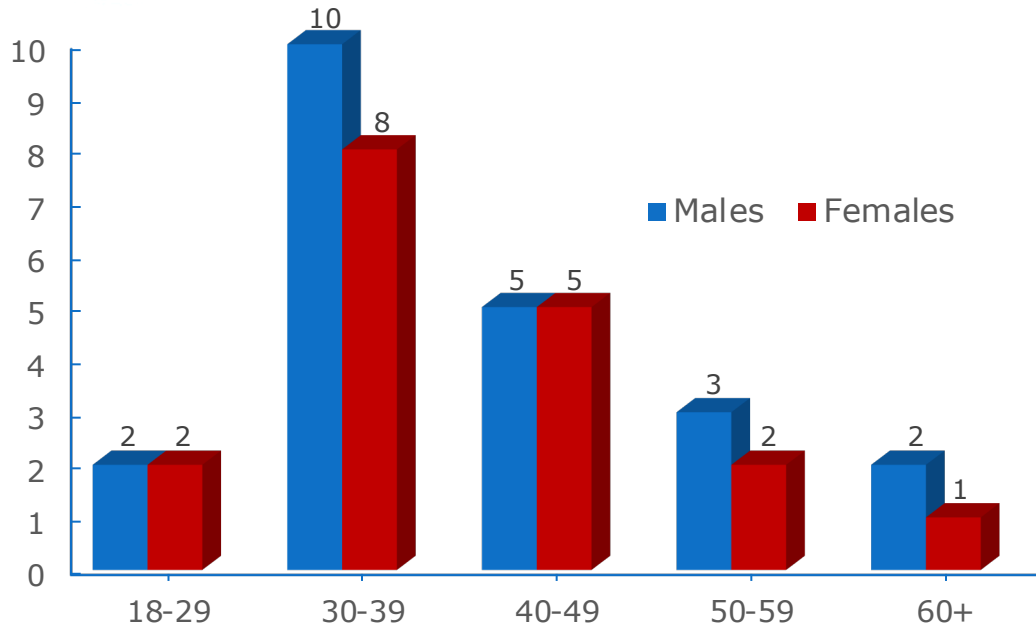


# Smart Home Devices

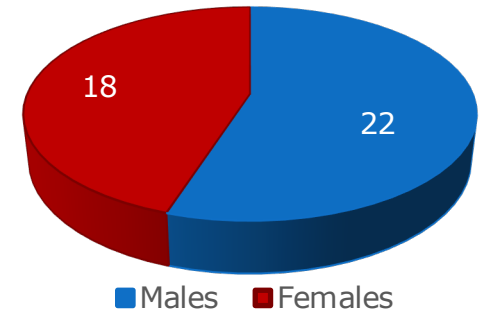


# Participant Demographics

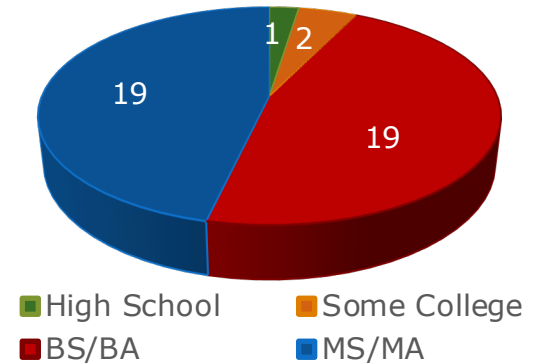
### Age Categories



### Gender



### Education



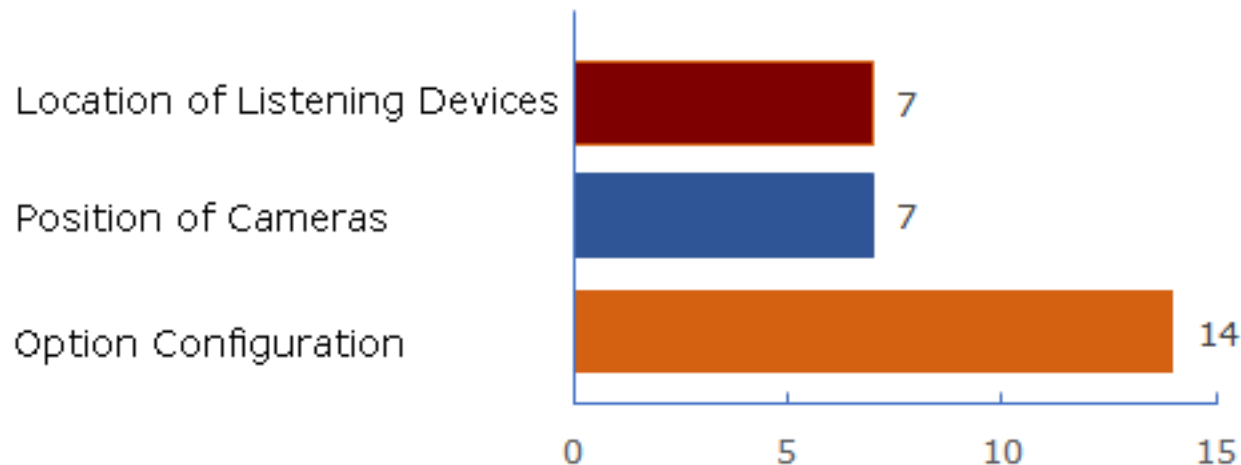
# Identified 4 Major Themes

1. Participants don't use terminology of IoT
  - Smart Home or Connected Home
2. Voiced many concerns about Privacy
3. Confused about Security
4. Confused about responsibilities (personal, manufacturer, government).

# More Concerned about Privacy than Security

- Express concerns but still don't change their behavior
  - *“I know that it's collecting personal data, but I like having the convenience of having those things”*
- Resignation – data is already out there
- Want easy mechanisms to address privacy

## Mentions of Privacy Mitigations



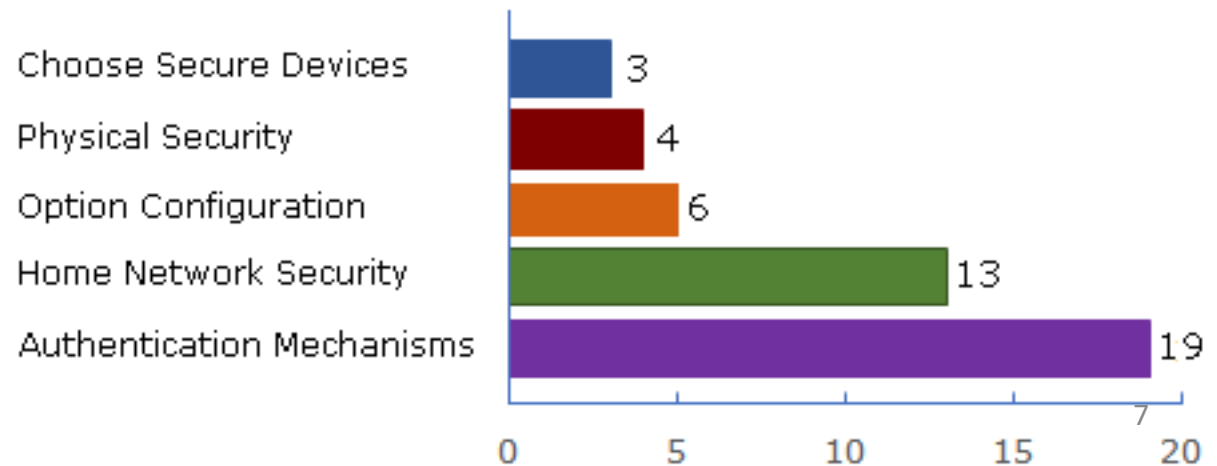
# Security is much less understood

- Don't understand security or implications

*“So having that as an unknown factor really concerns me in terms of what is the security around, if any, to the information that's being stored and what information is it and how the security around that is, so because it is so unknown, to me, it's very difficult to determine the type of security they have around this.”*

- Security is all about passwords and authentication
  - Security protects my data

Mentions of Security Mitigations



# Who's responsibility is it?

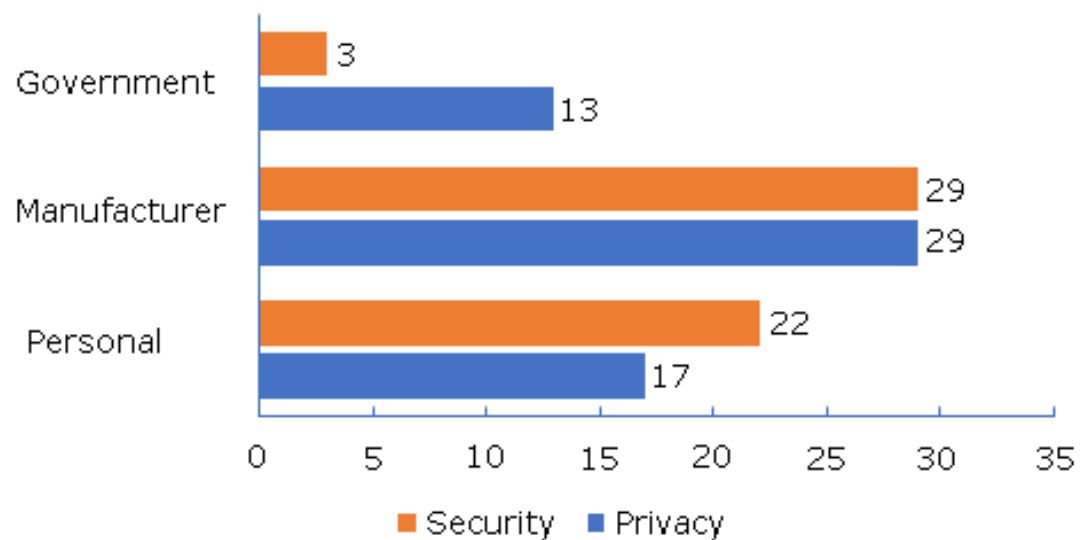
## Personal

- Privacy: *"If you want your information protected, don't bring a camera into your house."*
- Security: *"It's on you to either put extra restrictions in place or just be ok with the fact that a [breach] is going to happen."*

## Manufacturer

- Privacy: *"the people who write the software ... people who write the firmware ... you're really at their mercy."*
- Security: *"They are the prime people who are responsible for things they're making ... We really don't know what's inside of this."*

Perceptions of Responsibility





# What to do?

1. Privacy: Provide clear statements to address privacy during installation
  - Currently, nothing is readily apparent to address privacy
  - Once installed they will not change anything
2. Security: Responsibility of the manufacturer – must be secure out of the box
  - If offer security options – users won't understand the mitigations

