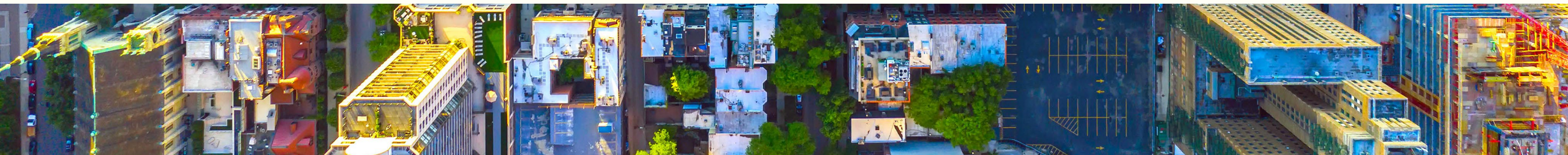


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Sensi Data Privacy Research

November 2024



Objectives & Methodology

Objectives

- Understand the motivations and barriers to purchasing smart home products and smart thermostats, in particular
- Determine how smart thermostat users and non-users feel about the data privacy/security of their smart home products
- Identify the most appealing benefits or features of smart thermostats
- Track trends versus 2022 wave.

Methodology

- This market research study was based on questionnaire designed by FleishmanHillard and executed by the Copeland Marketing Research & Insights team.
- An e-mail invitation was sent by  dynata™ to their panel of respondents requesting participation in the survey. They followed a link to the survey and completed the online survey within 12 minutes.
- Statistically significant differences are reported at the 95% confidence level, noted throughout this report with a green (higher) or red (lower) oval

Sample Design

- Sample Size: N=2000 valid completes
- Sample Qualifications:
 - US Homeowners
 - 18 to 76 yrs. old
- Sample proportions are representative of US homeowners, based upon US census data:

Age Group Distribution	
Gen Z	169 (8%)
Millennials	484 (24%)
Gen X	645 (32%)
Boomers	702 (35%)

Gender Distribution	
Male	996 (50%)
Female	1000 (50%)
Self-identify	2
Prefer not to say	2

US Region Distribution	
Northeast region	339 (17%)
Midwest region	460 (23%)
South region	760 (38%)
Western region	441 (22%)

Household Income Distribution	
Less than \$50,000	400 (20%)
\$50,000 to \$74,999	332 (17%)
\$75,000 to \$99,999	308 (15%)
\$100,00 to \$149,999	453 (23%)
\$150,000 to \$199,999	241 (12%)
\$200,000 or more	266 (13%)

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Results



Executive Summary



The dichotomy between smart device owners and non-owners remains largely similar to 2022. Both groups have a high familiarity with smart home devices. Smart device owners (36%) still consider themselves more tech savvy/early adopters than smart thermostat non-owners (20%). Smart device owners tend to be younger compared to non-owners with more from the boomer generation. However, 2024 homeowners are less likely to consider themselves as early adopters/tech-savvy of (26%) in 2024 than in 2022 (36%) . Even smart thermostat owners follow this trend (from 53% in 2022 down to 36% in 2024). Non-owners of smart thermostats are even less likely to feel comfortable using any new technology this year.



In 2024, homeowners are more likely to feel that smart devices provide added security in their homes. Hence, there's an increase in ownership of smart doorbells, smart home security systems, smart smoke detectors and smart door locks. Ownership of smart thermostats, smart TVs and appliances are also significantly more this year compared to 2022. Smartphone control in thermostats has become more attractive. Features like remote monitoring and control resonated better with homeowners this year.



Interestingly, homeowners are more likely to be concerned about data privacy in 2024 than in 2022. Both owners and non-owners of smart thermostats expressed less confidence in whether the manufacturers of smart thermostats use their data responsibly in 2024 compared to 2022. More than half of the homeowners (52%) don't have an idea of how data is collected from their smart thermostats. Data privacy policies are consistently the least researched detail before purchasing a smart thermostat. More respondents said they did not research before purchase this year. However, the promise of more data privacy in smart thermostat devices remain an appealing offer for both owners of smart thermostats (71% considering as replacement occasion) and non-owners of smart thermostats (47% considering buying in the next 12 months).

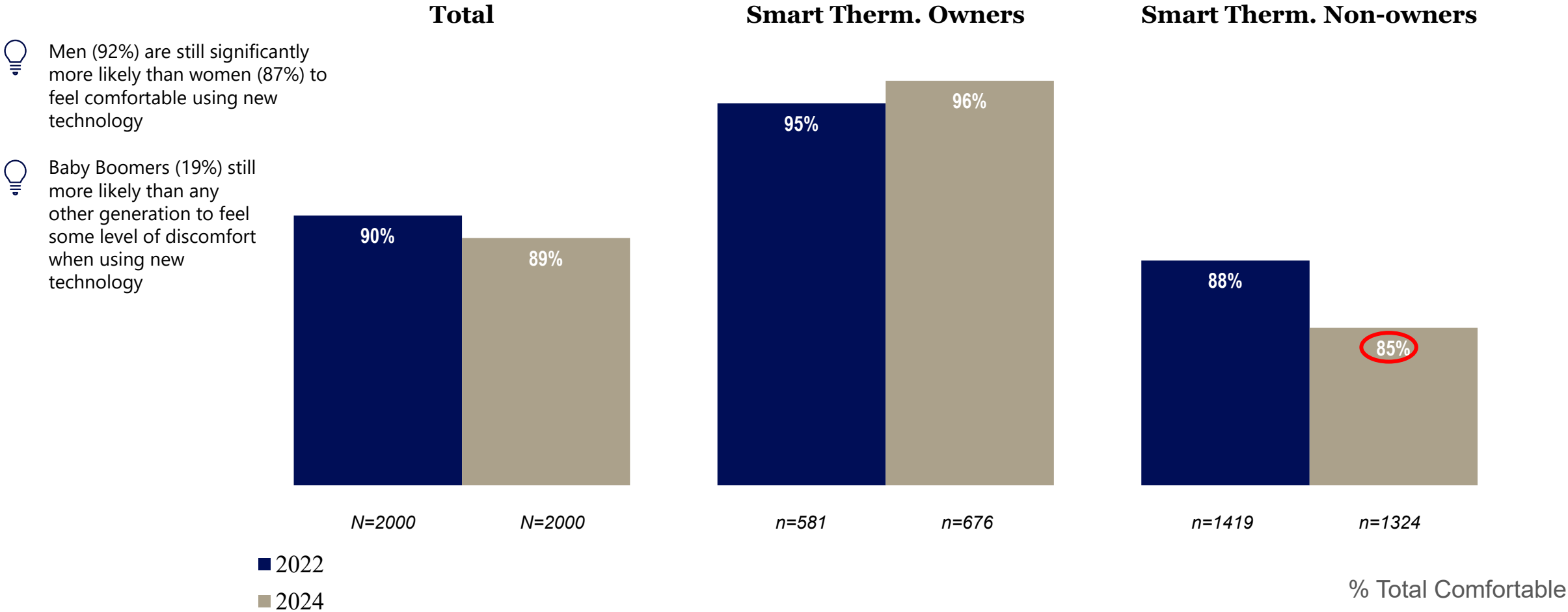
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Smart Home Devices



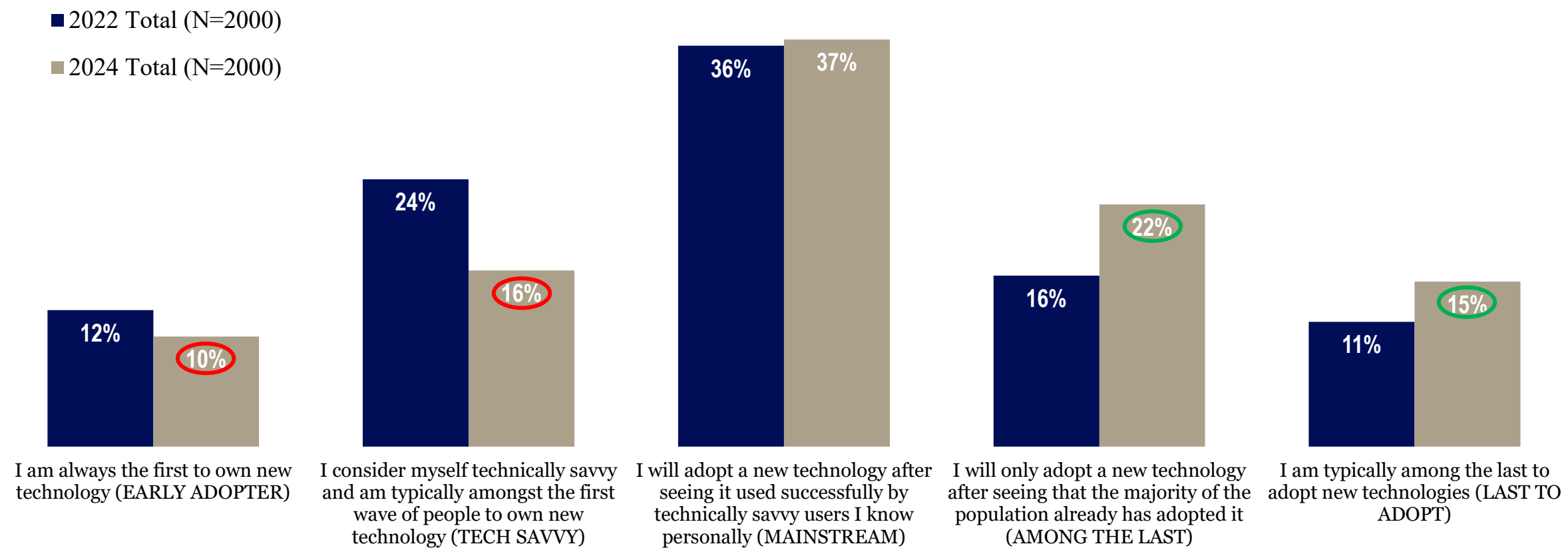
Comfort With Using New Technology

Homeowners are still generally comfortable in using new technology, but this year smart thermostat non-owners are less likely to feel comfortable using new tech compared to 2022 levels.



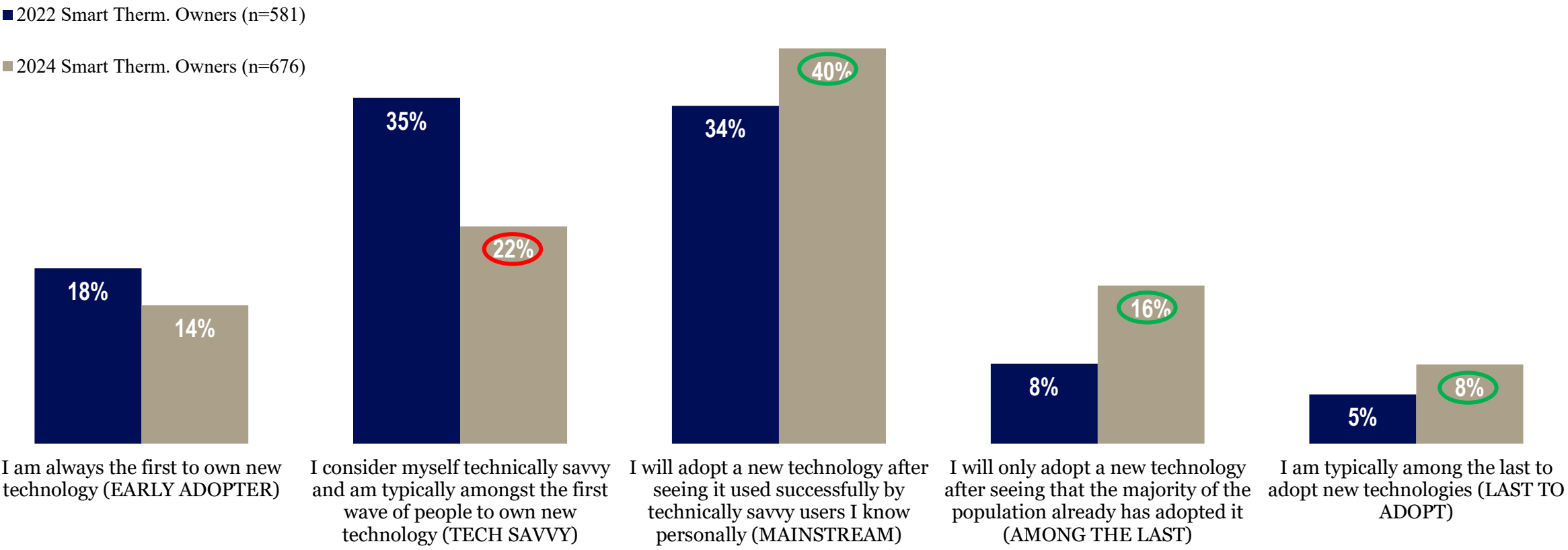
Technology Adoption - Total

In 2024, the perception of being an early adopter/tech savvy among homeowners weakened. Since the 2022 wave, AI tools have become much more common, perhaps affecting people’s understanding of technology and their relationship with it.



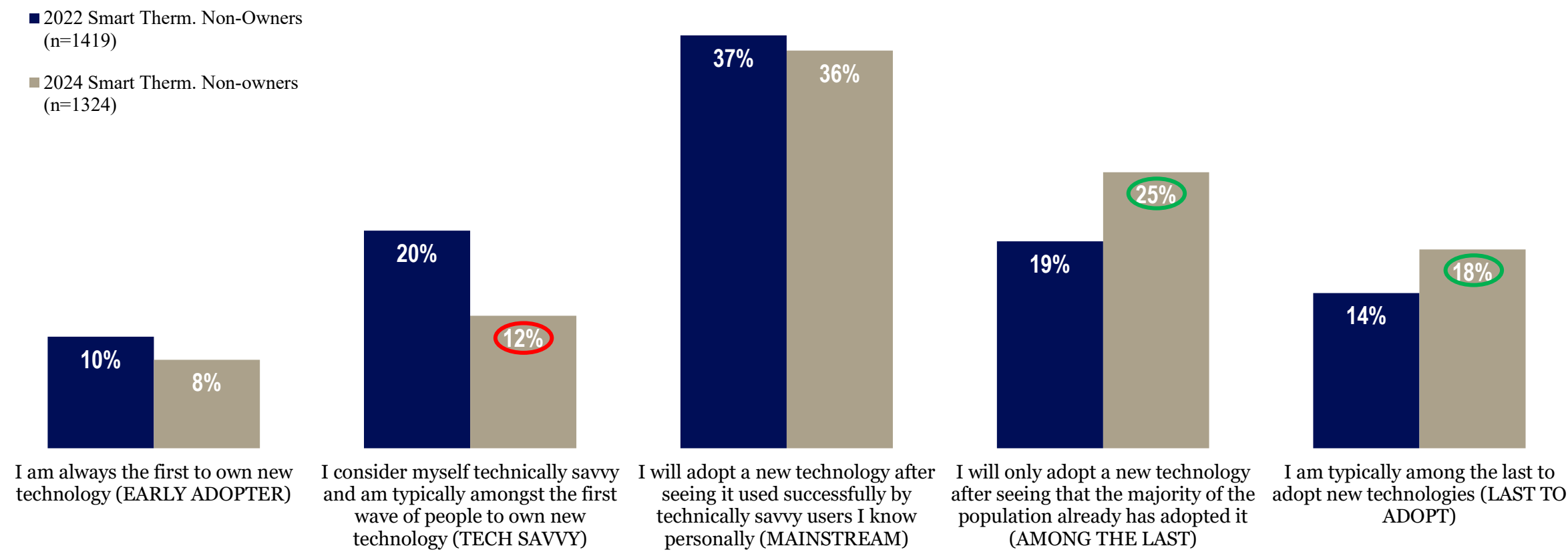
Technology Adoption - Smart Thermostat Owners

Even among smart thermostat owners, there are less customers who see themselves as tech savvy compared to 2022.



Technology Adoption - Smart Thermostat Non-owners

There's also a dip in the numbers of non-owners who consider themselves as tech savvy.

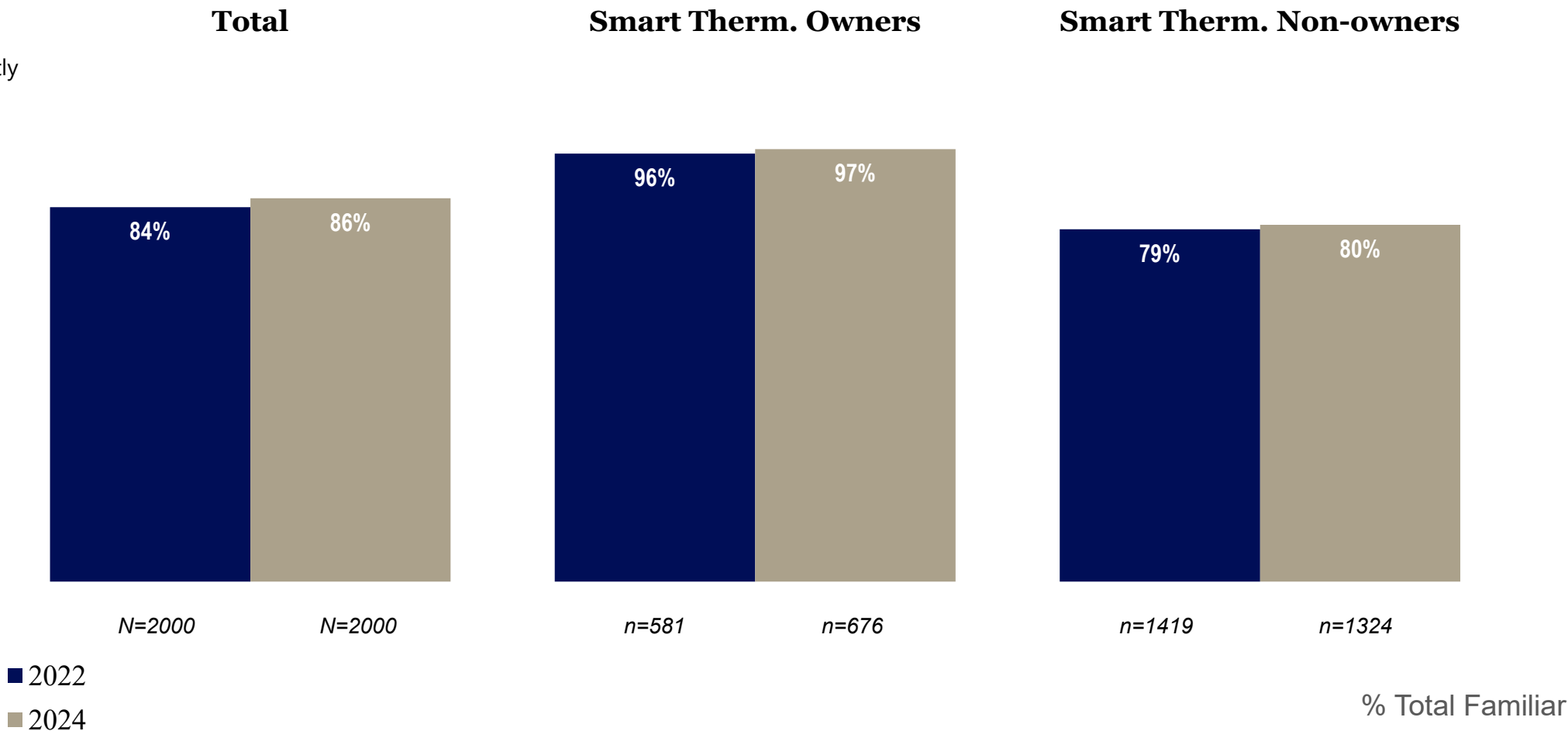


Familiarity With Smart Home Devices

The level of familiarity with smart home devices is consistently high.

💡 Men (89%) are significantly more likely than women (83%) to be very or somewhat familiar with smart home devices

💡 Baby Boomers (25%) are more likely than any other generation to say that they are not very familiar with smart home devices

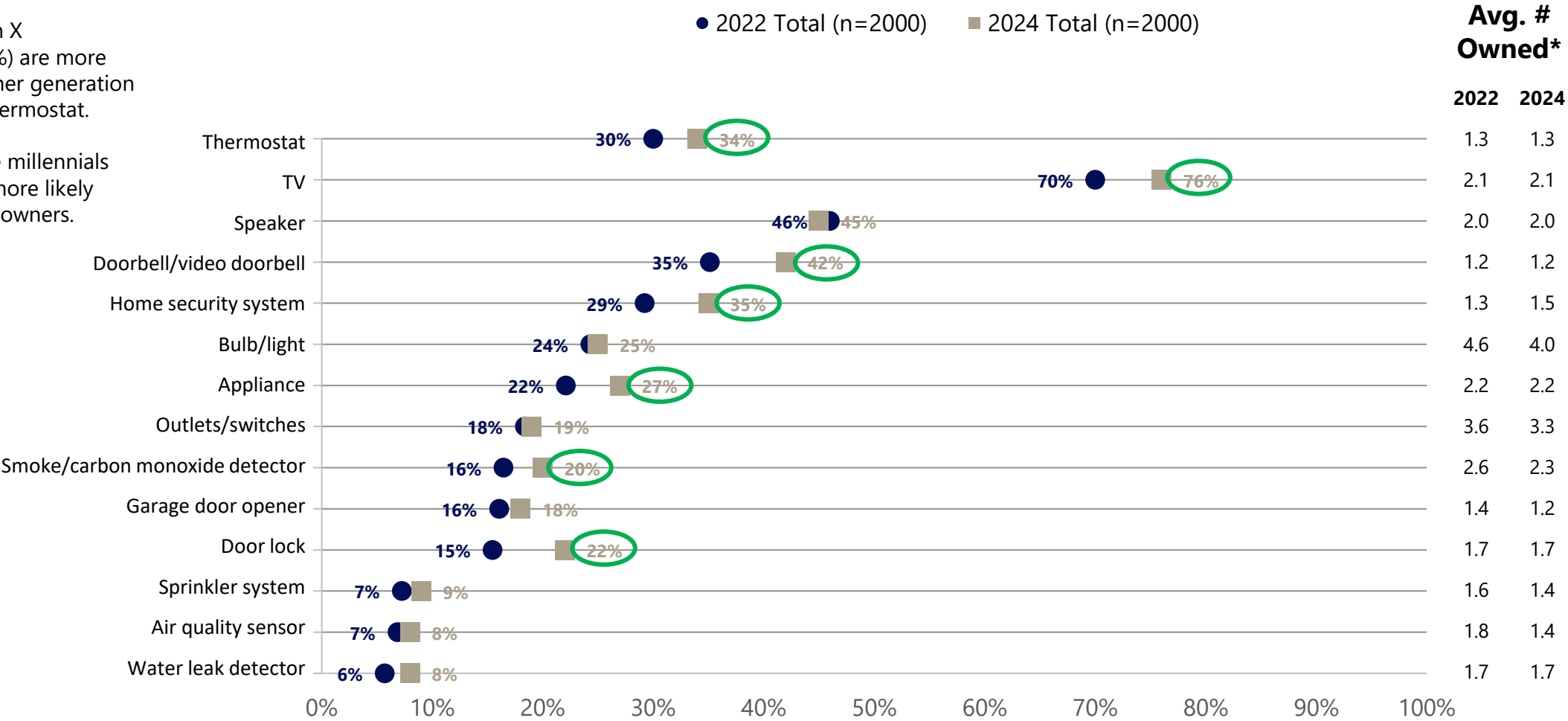


Smart Home Device(s) Owned - Total

Ownership of Smart thermostats, TVs, doorbells, home security systems, appliances, smoke detectors, and door locks increased this year.

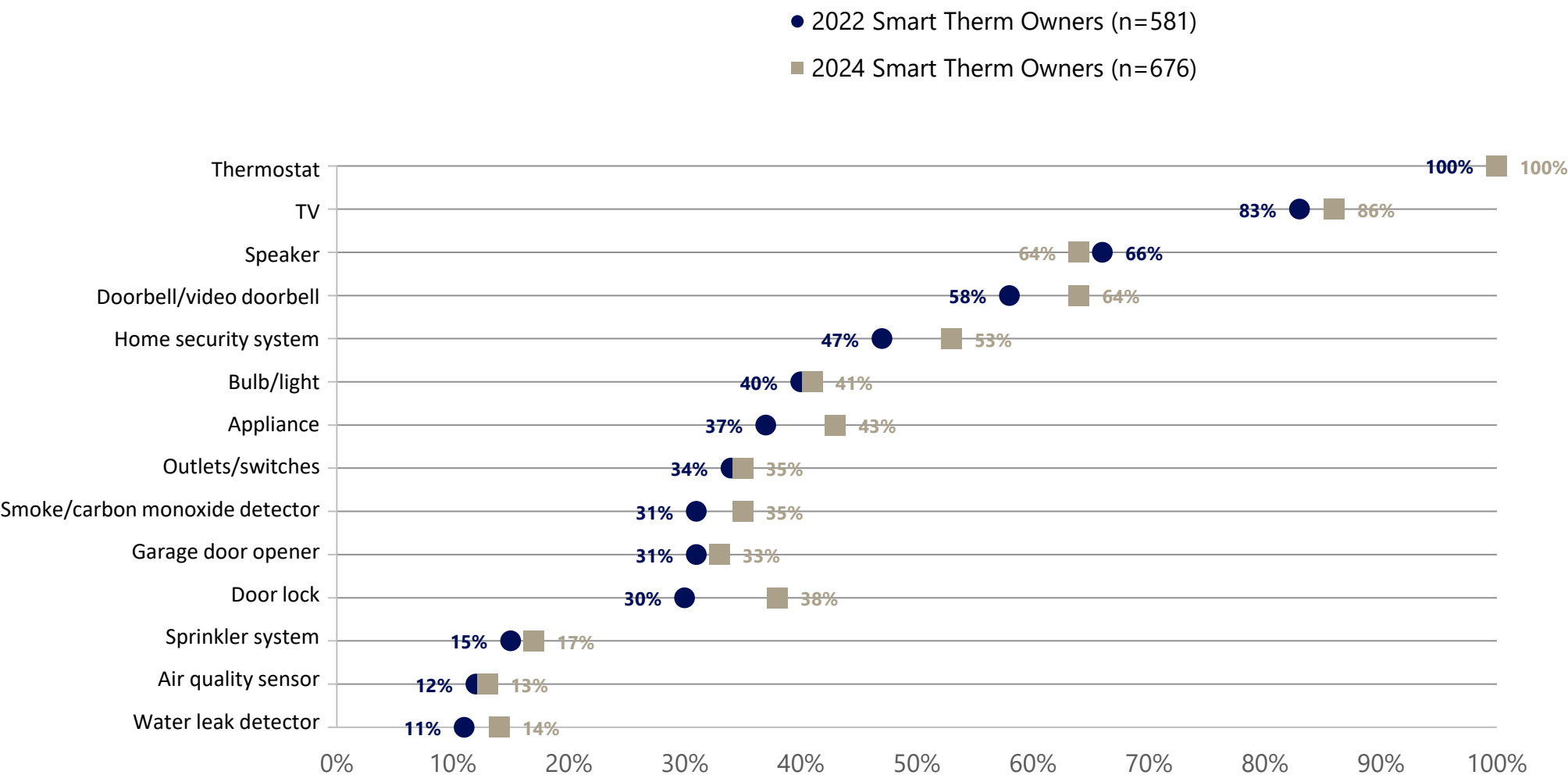
For this wave, Gen X homeowners (38%) are more likely than any other generation to own a smart thermostat.

In 2022, it was the millennials (41%) who were more likely smart thermostat owners.



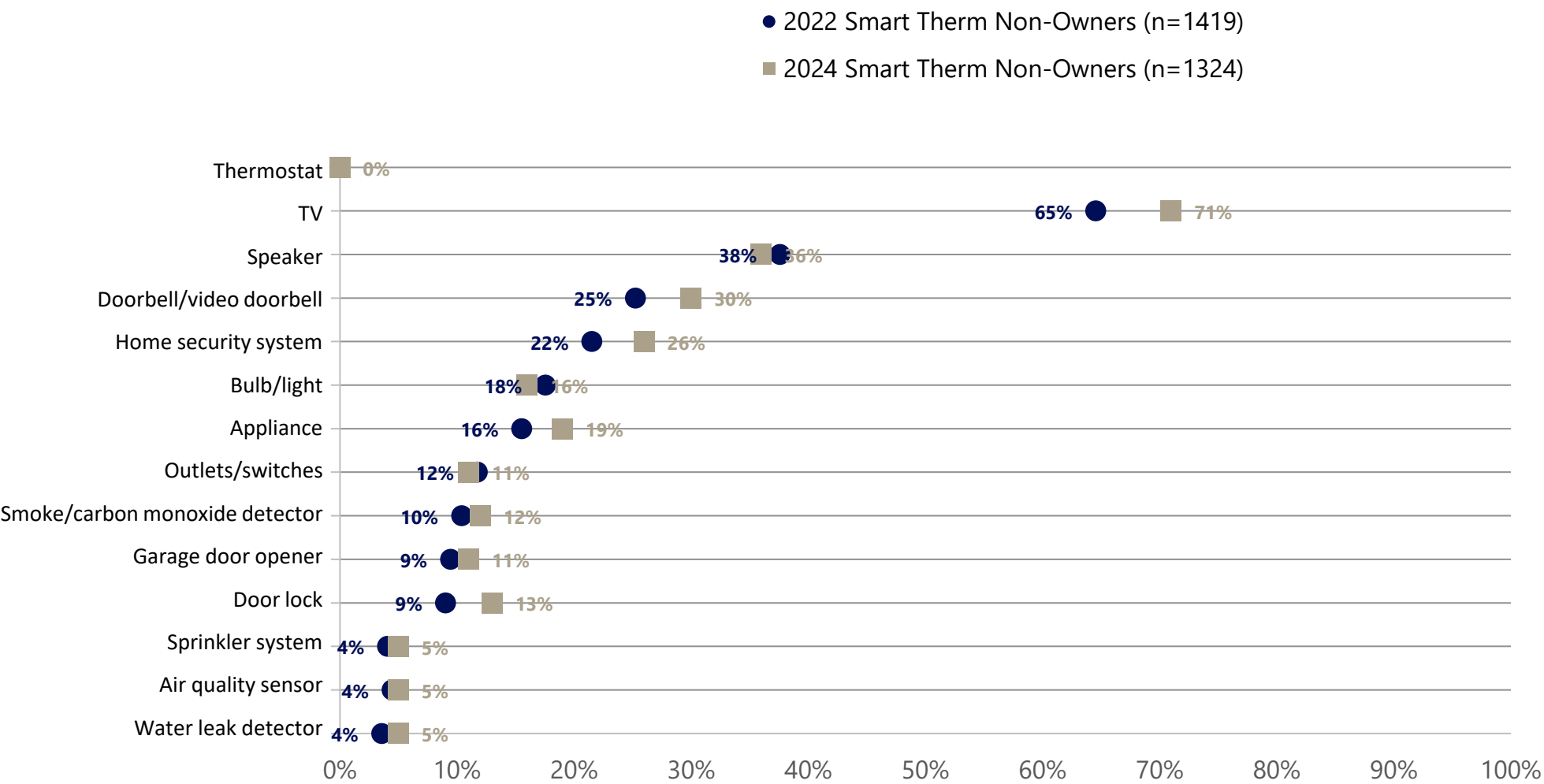
Smart Home Device(s) Owned - Smart Thermostat Owners

Thermostat owners are likely to own other smart home devices as well.



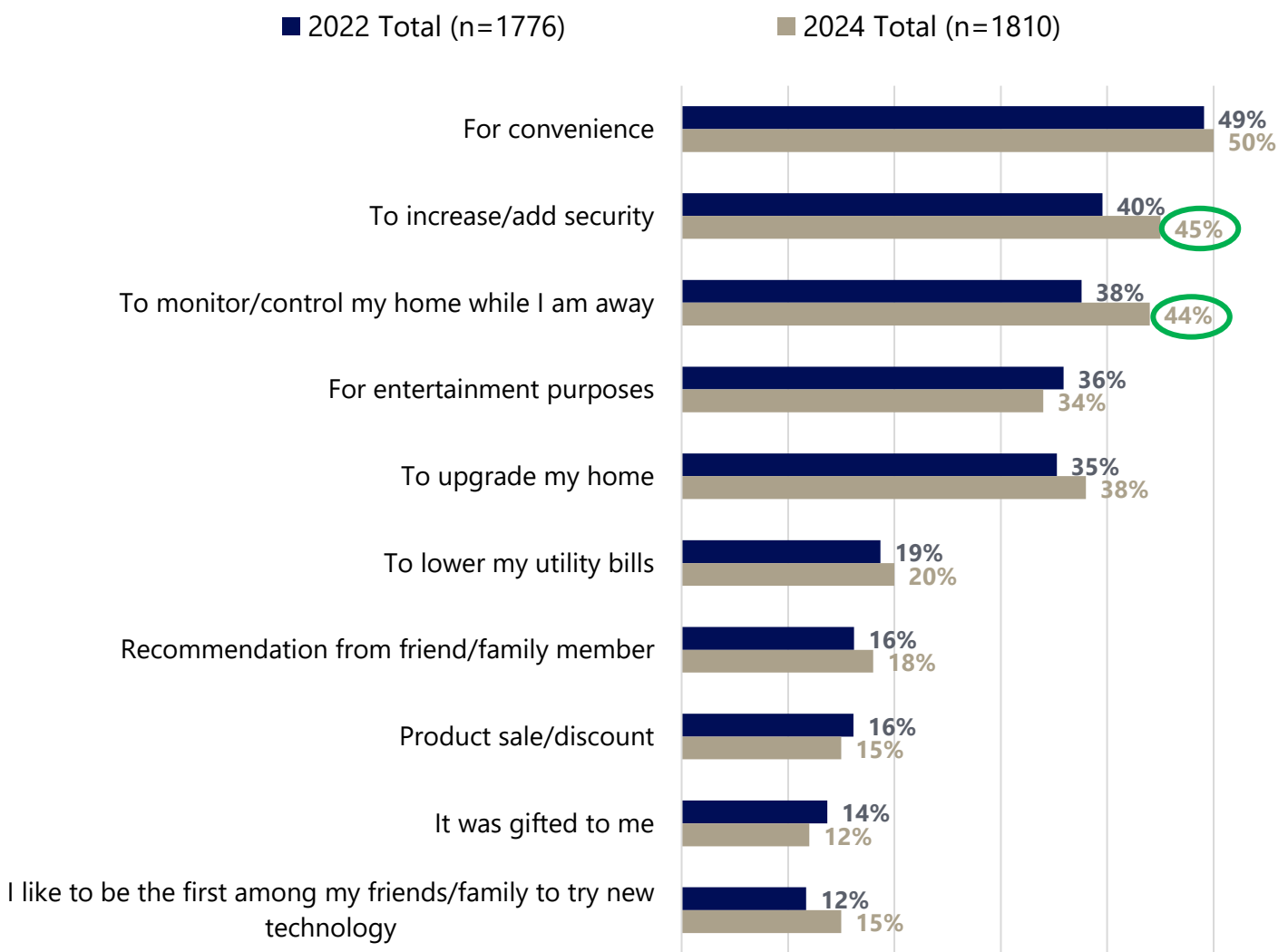
Smart Home Device(s) Owned - Smart Thermostat Non-owners

Non- owners are less likely to own other smart home devices.



Reasons for Purchasing Smart Home Device(s) - Total

Of those who own at least one smart home device



The top reason is convenience. More homeowners purchased smart devices to increase security and for remote monitoring and control.

Gen Z (20%) and Millennial (29%) respondents are significantly more likely to have purchased a smart home device because they like to be the first to try new technology than Gen X (13%) or Baby Boomers (4%)

Gen Z (48%) and Millennial (53%) respondents are significantly more likely to have purchased a smart home device to upgrade their home than Gen X (39%) or Baby Boomers (24%)

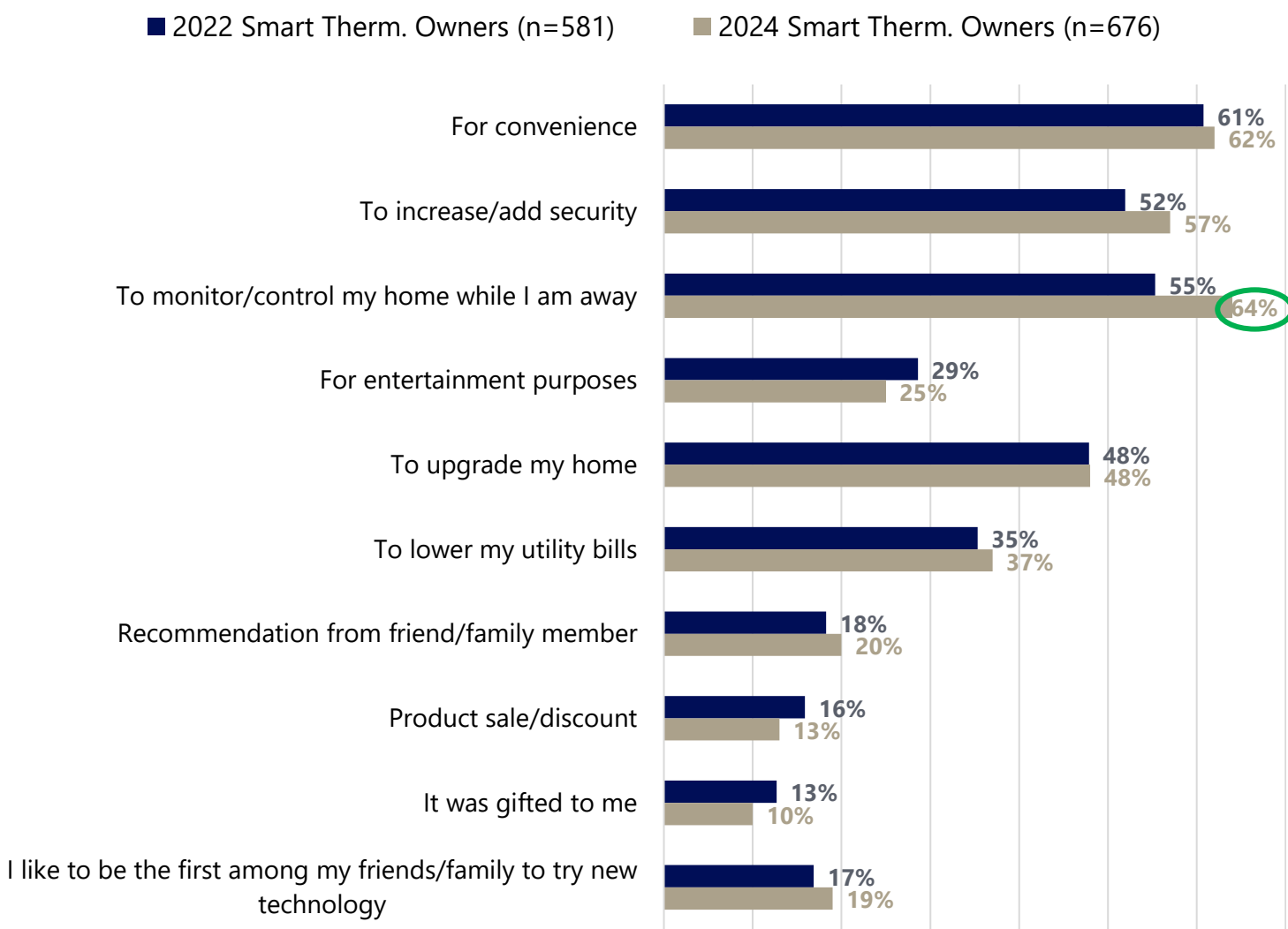
Men (44%) are significantly more likely to have bought smart home devices to upgrade their home than Women (32%).

Higher income earners (\$150k-\$199k and \$200k or more) (47%-46%) are significantly more likely to have bought smart home devices to upgrade their home than lower income earners (Less than \$50k) (25%).

Q6. For which reason(s) did you purchase your smart home device(s)?
Select all that apply.
"Something else" and "N/A" were selected by 2% or fewer respondents

Reasons for Purchasing Smart Home Device(s) – Smart Thermostat Owners

Of those who own at least one smart home device



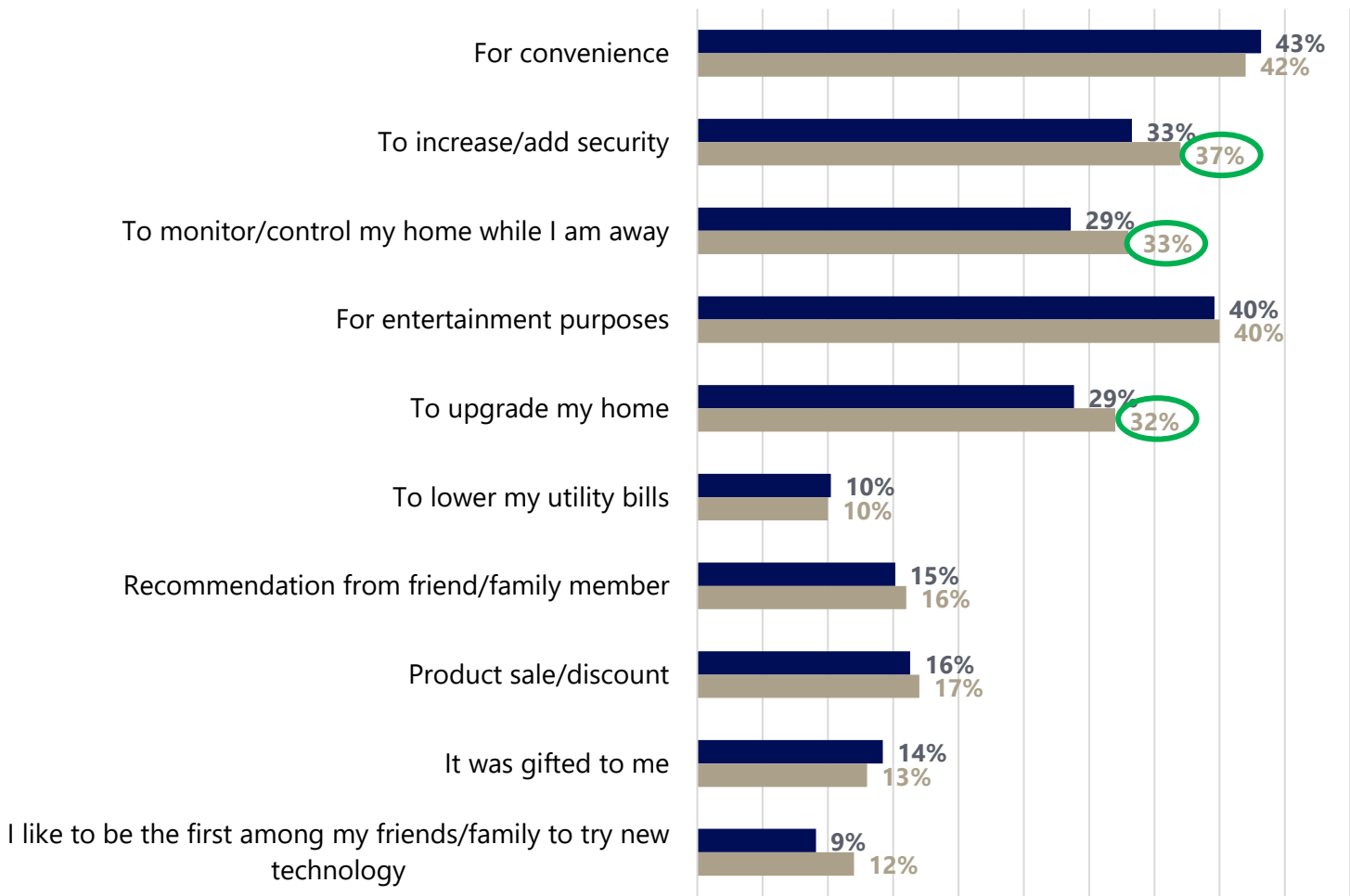
Smart thermostat owners are more likely to be motivated by remote monitoring and control when buying smart home devices.

Q6. For which reason(s) did you purchase your smart home device(s)?
Select all that apply.
"Something else" and "N/A" were selected by 2% or fewer respondents

Reasons for Purchasing Smart Home Device(s) – Smart Thermostat Non-owners

Of those who own at least one smart home device

■ 2022 Smart Therm. Non-Owners (n=1195) ■ 2024 Smart Therm. Non-Owners (n=1134)

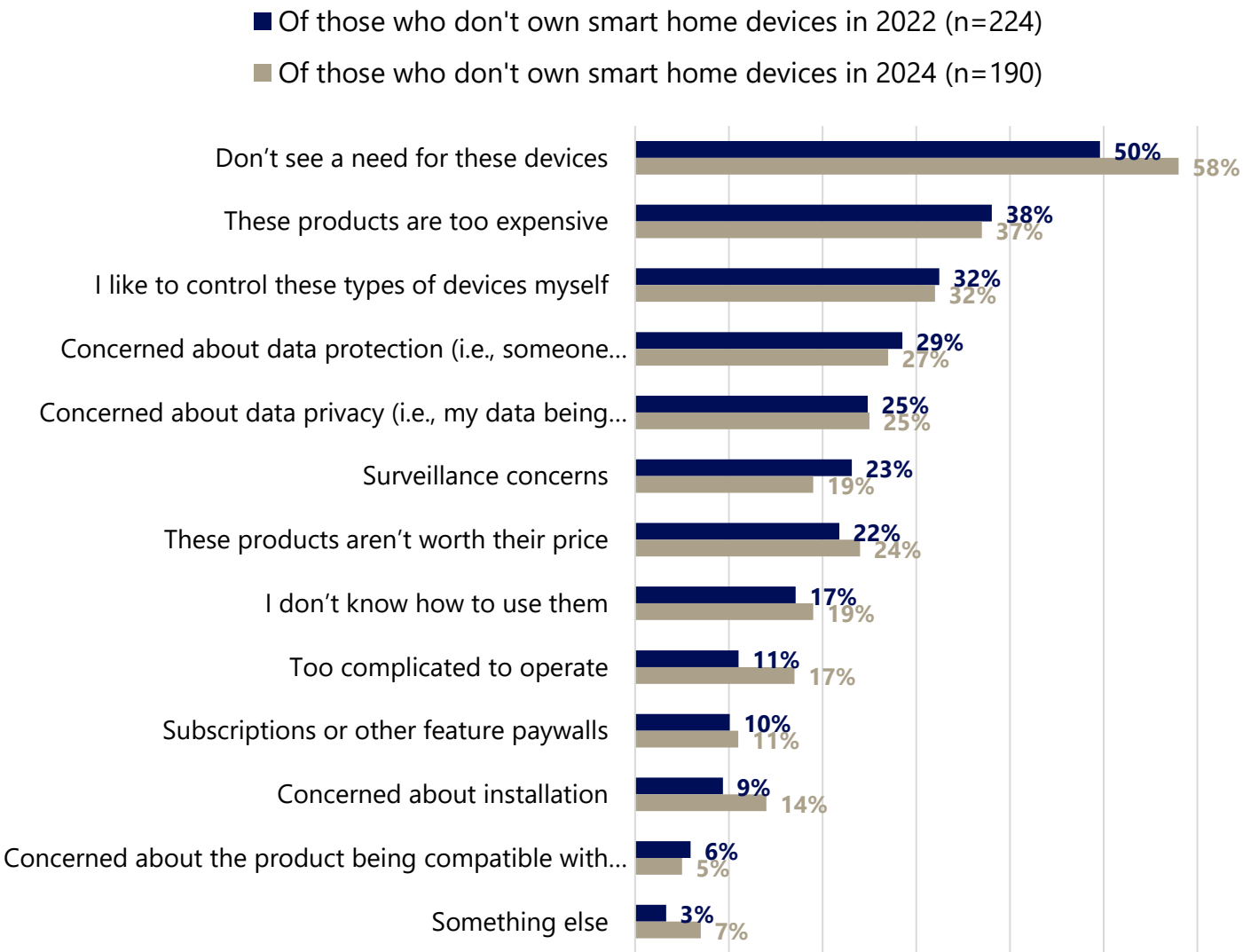


Even among non-owners of smart thermostat, there is an increased drive to upgrade their home by purchasing smart devices that allows remote monitoring & control and therefore increase security.

💡 Smart thermostat non-owners (40%) are significantly more likely to have purchased smart home devices for entertainment purposes than smart thermostat owners (25%).

Q6. For which reason(s) did you purchase your smart home device(s)?
Select all that apply.
"Something else" and "N/A" were selected by 2% or fewer respondents

Reasons for NOT Purchasing Smart Home Device(s)

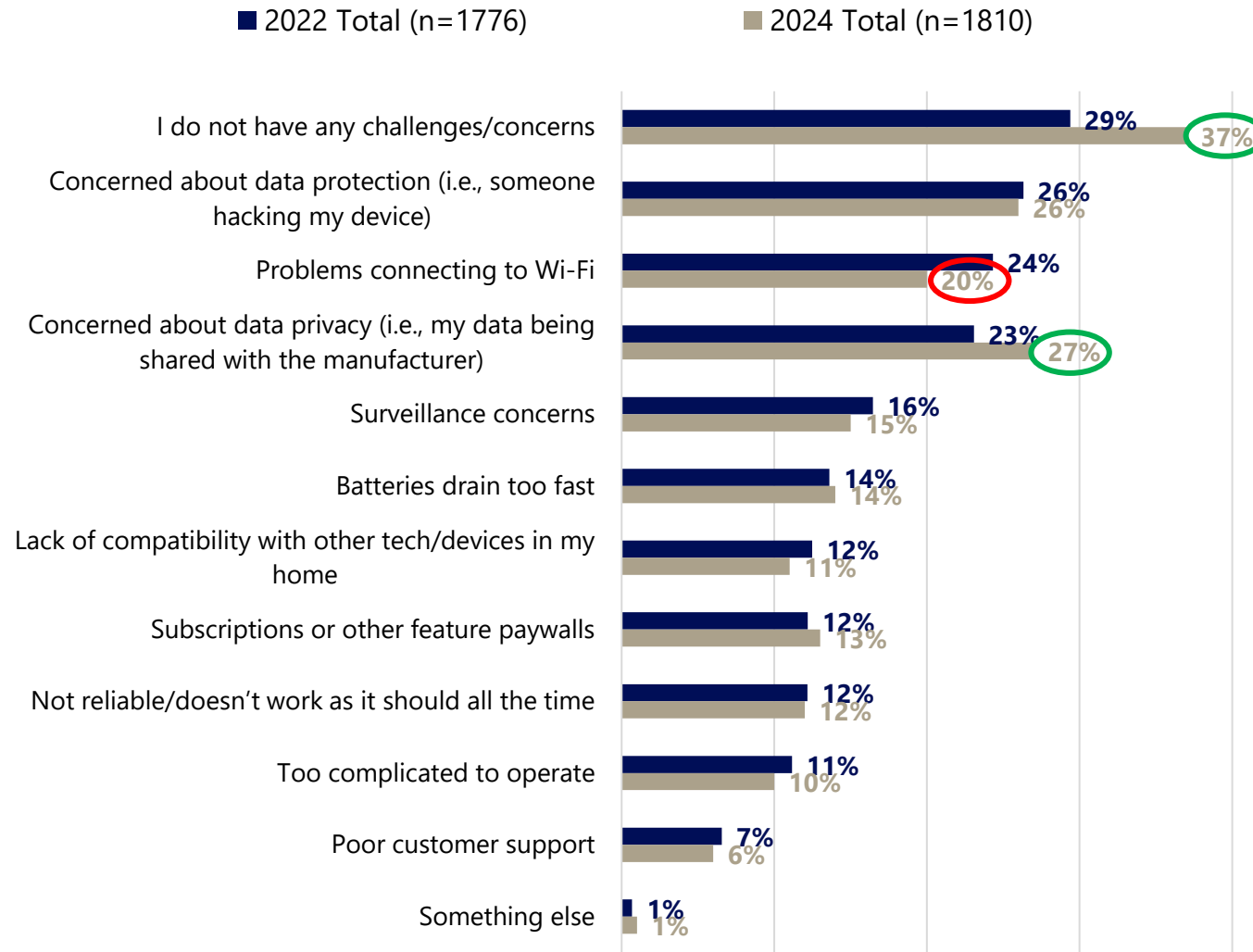


More than half of those who don't own a smart home device simply don't see a need for them.

💡 Men (67%) are more likely than women (53%) to not see the need. Also, Men (46%) are more likely to be in control of these types of devices than women (24%).

Concerns/Challenges With Smart Home Device(s) - Total

Of those who own at least one smart home device



Homeowners are less likely to feel challenged/ concerned about their smart devices this year. In fact, those who have Wi-Fi problems decreased.

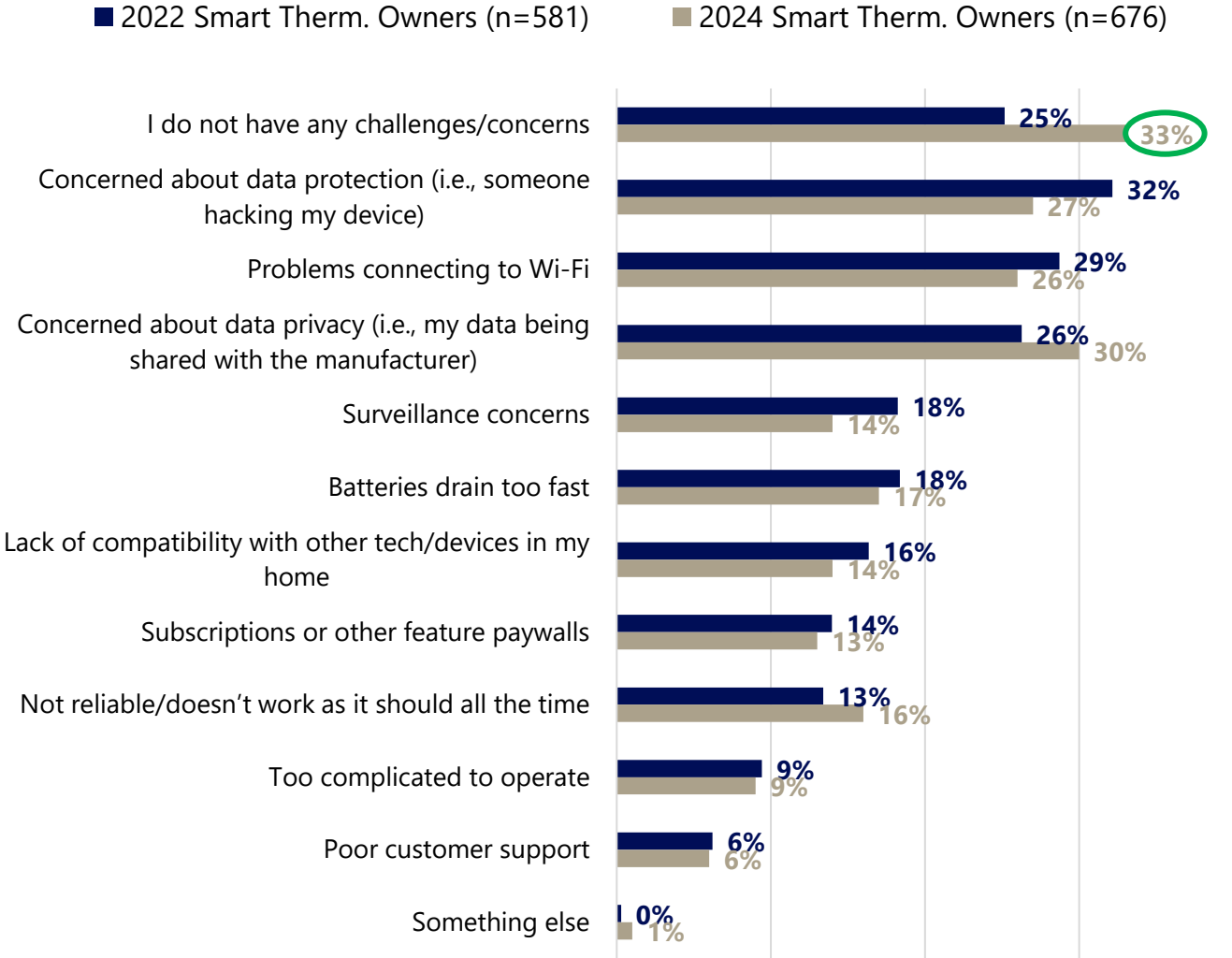
Interestingly, homeowners are more likely to be concerned about data privacy in 2024 than in 2022.



Millennials (20%) are significantly more likely than any other generation to cite "surveillance concerns" with their smart home devices

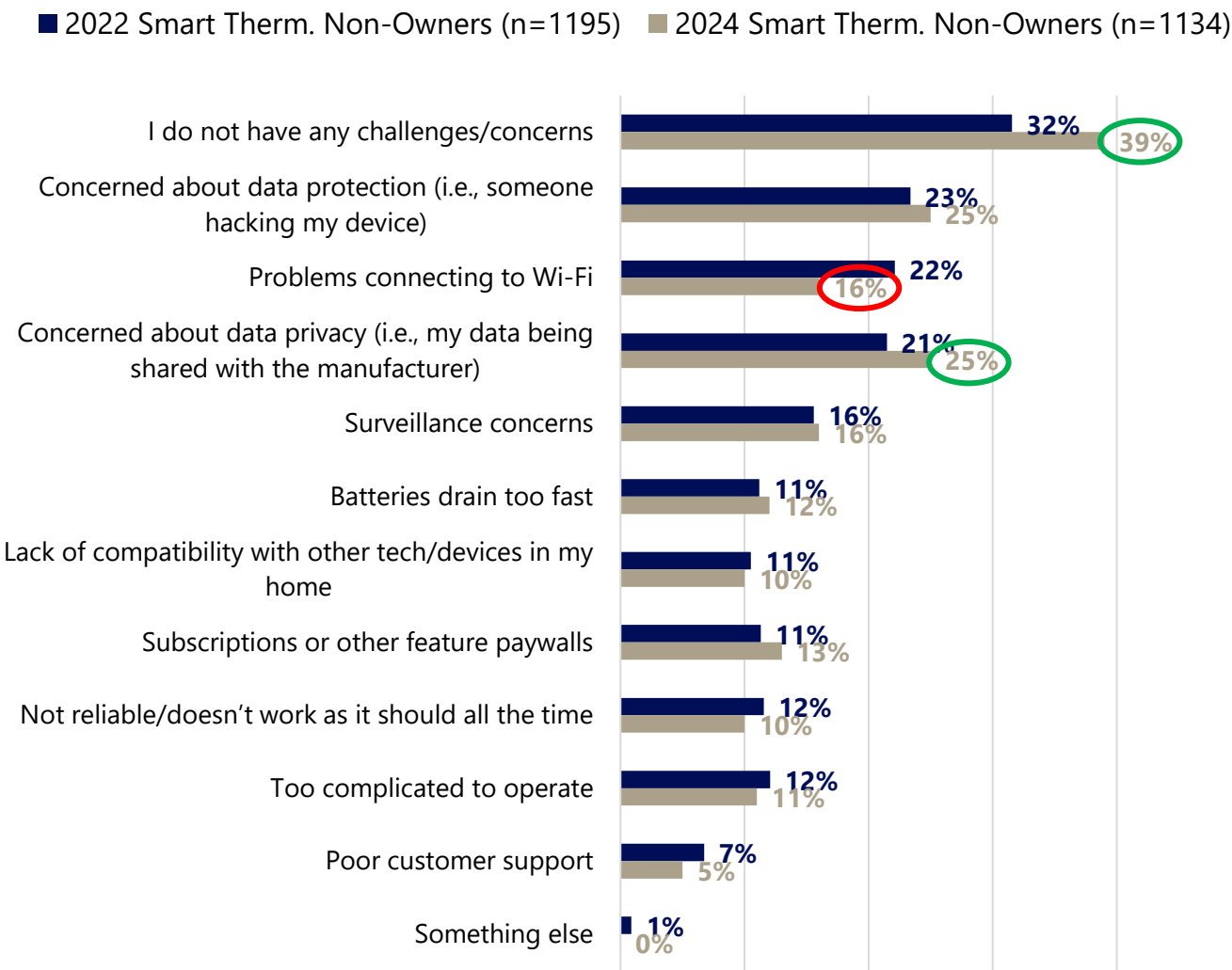
Concerns/Challenges With Smart Home Device(s) – Smart Thermostat Owners

Of those who own at least one smart home device



Concerns/Challenges With Smart Home Device(s) – Smart Thermostat Non-owners

Of those who own at least one smart home device



There is an increased concern about data privacy among non-owners.

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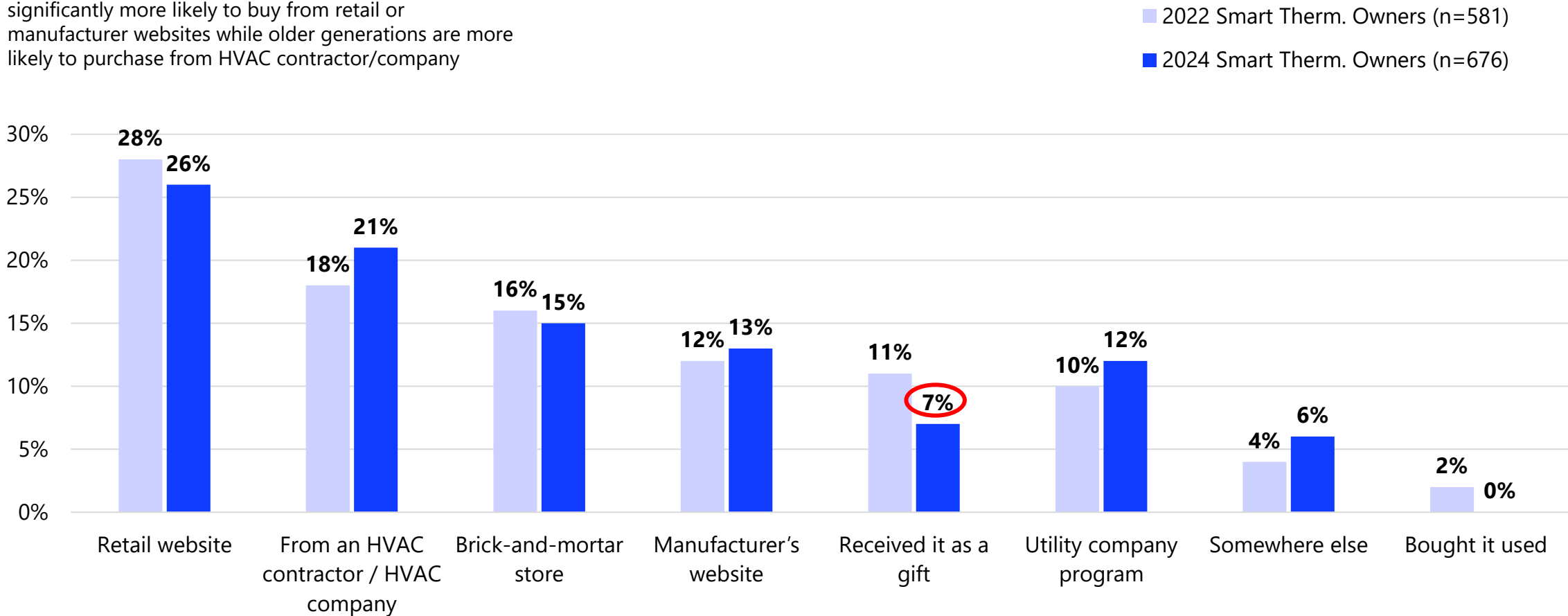
Smart Thermostats



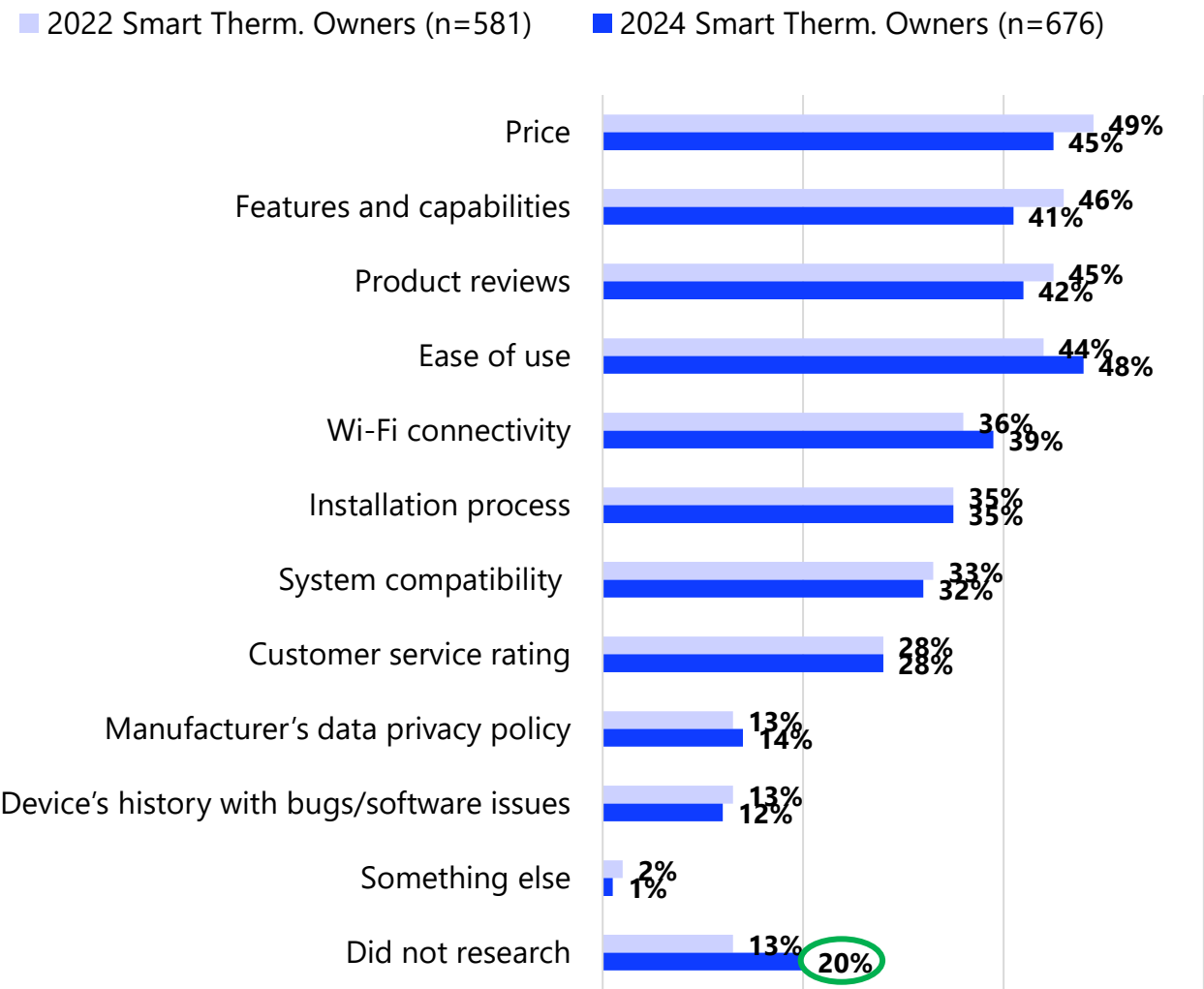
Smart Thermostat: Place of Purchase

There's no significant changes in the place of purchase for smart thermostats. Fewer customers received it as a gift.

💡 Younger generations like Millennials and Gen Z are significantly more likely to buy from retail or manufacturer websites while older generations are more likely to purchase from HVAC contractor/company



Smart Thermostat: Detail(s) Researched Before Purchase



Data privacy policies are still among the least researched details before purchasing a smart thermostat. In fact, more respondents said they did not research before purchase.



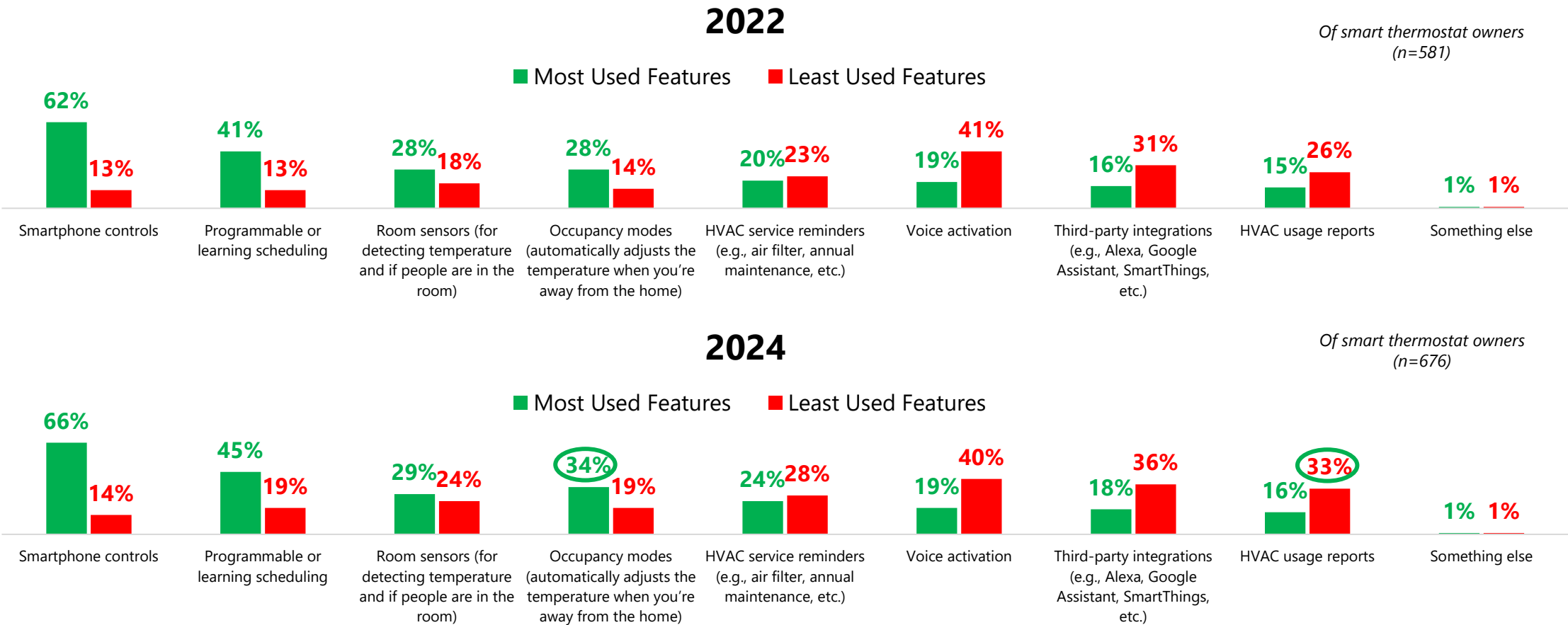
Respondents in the Northeast (41%) are significantly more likely than all other regions to say that they had researched about price and system compatibility before buying smart thermostat.



Millennials (23%) are significantly more likely than all other generation to say that they had researched about the manufacturer's data privacy policy before purchasing their thermostat.

Smart Thermostat: Most & Least Used Feature(s)

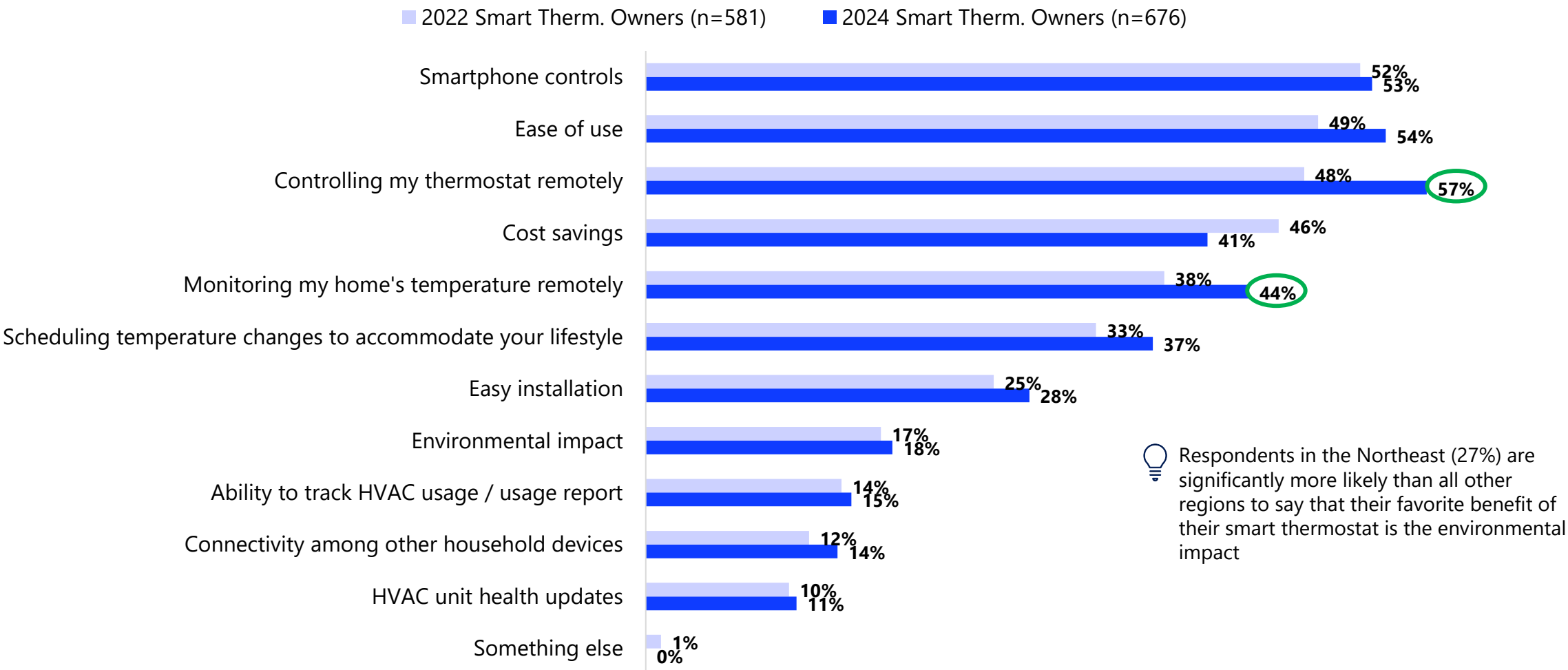
Smart thermostat owners still use smartphone controls and programmable scheduling the most while. Voice activation and third-party integrations are the least used. Owners are more likely to use occupancy modes this year compared to 2022 while they are also less likely to use HVAC usage reports this year.



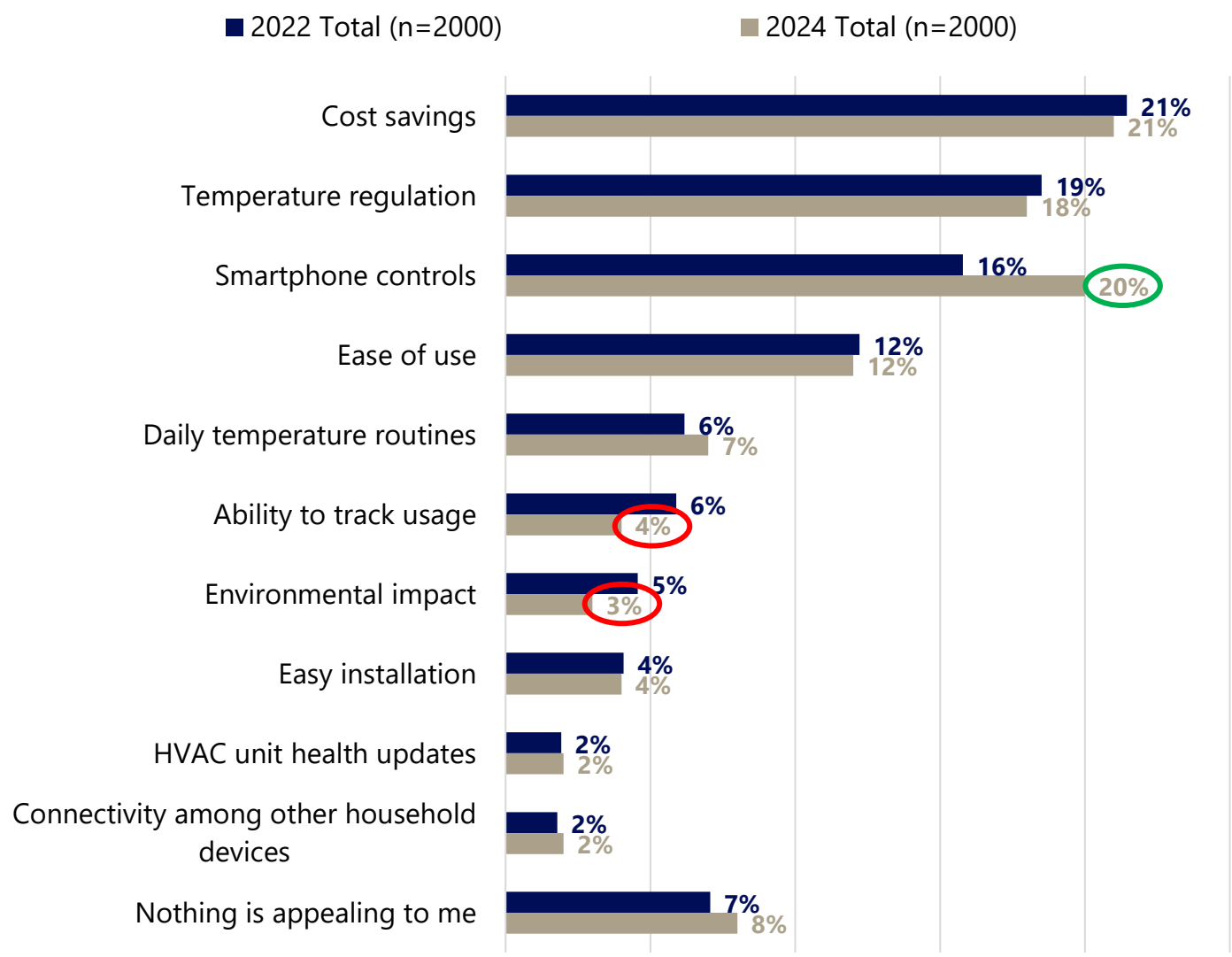
Q14. Which features of your smart thermostat do you use the most? Select all that apply.
Q15. And which features of your smart thermostat do you use the least? Select all that apply.

Smart Thermostat: Favorite Benefit(s)

Remote monitoring and control have become favorite features this year.



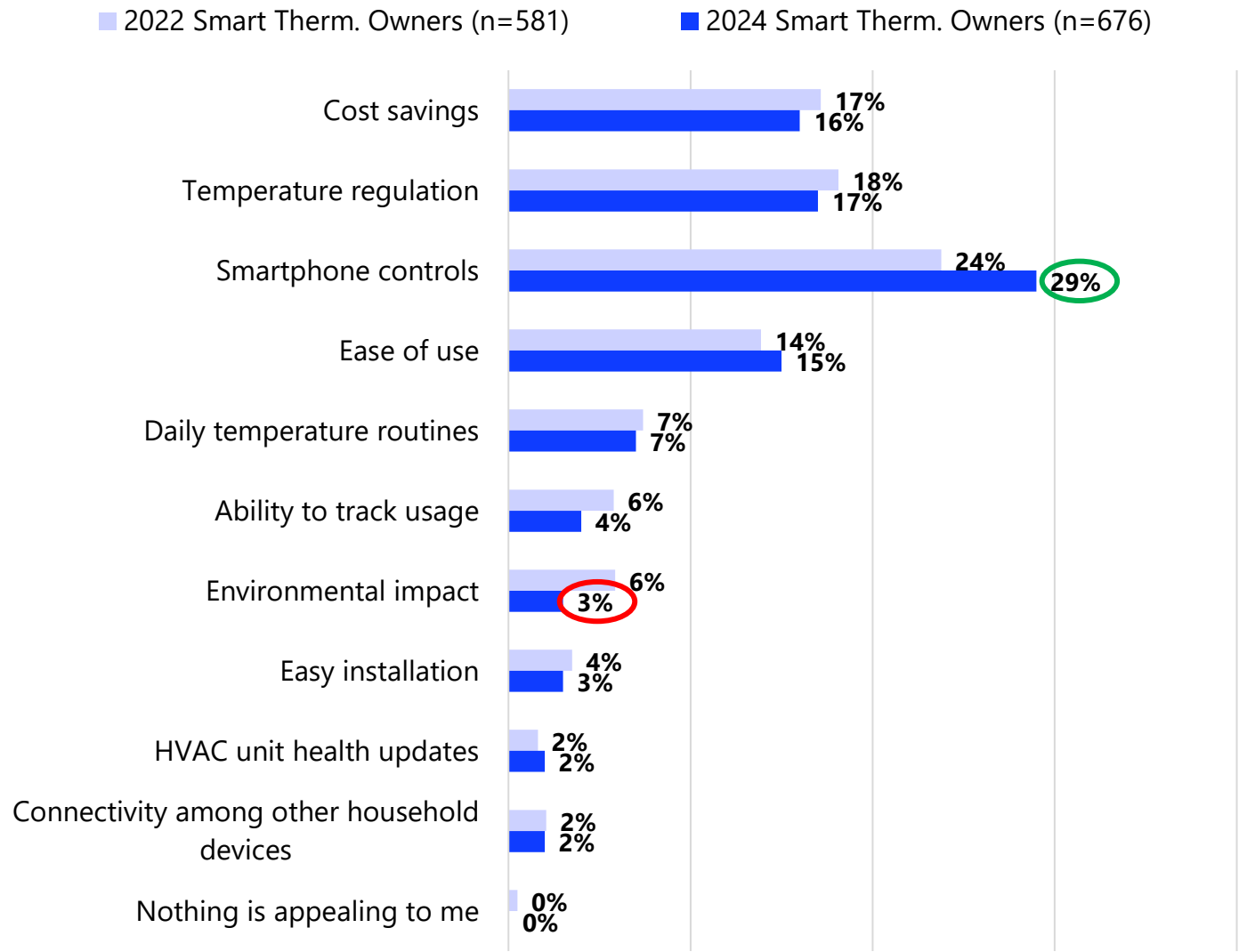
Most Appealing Benefit of Smart Thermostats - Total



Smartphone controls is more likely to be cited as the most attractive benefit of a smart thermostat this year compared to 2022.

- 💡 Respondents in the Midwest (21%) are significantly more likely than all other regions to say that the most appealing feature of their smart thermostat is temperature regulation.
- 💡 Older respondents, like Gen X (24%) and Baby Boomers (22%), are more likely to cite cost saving as the most appealing benefit of owning a smart thermostat, while benefits like smartphone controls are significantly more appealing to Gen X (24%) this year. Gen Z (22%) more likely than any other generation to mention ease of use as the most appealing benefit for their group.

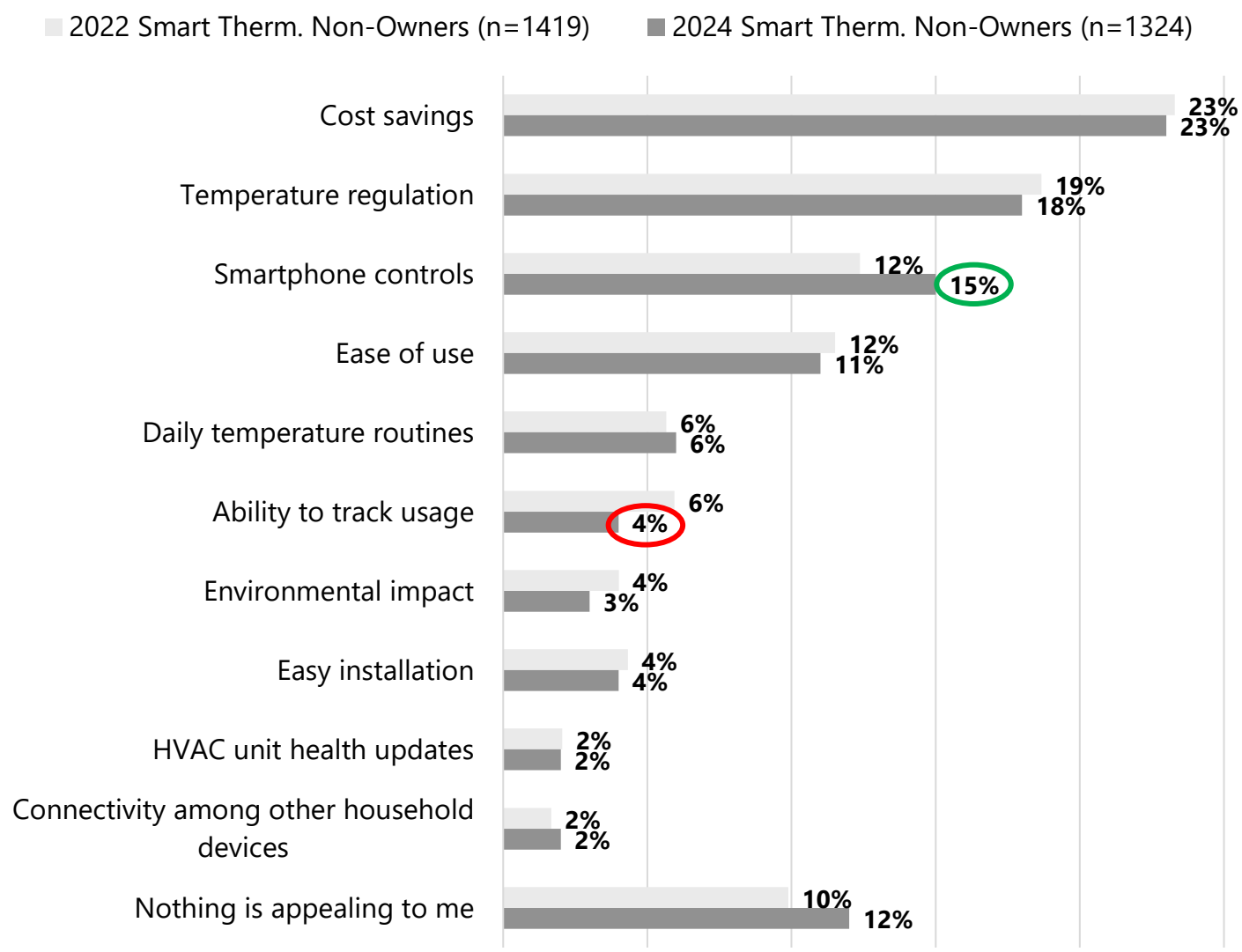
Most Appealing Benefit of Smart Thermostats – Smart Thermostat Owners



Q17. Which of the following is most appealing to you about owning a smart thermostat? Select one.

"Something else" was selected by 2% or fewer respondents

Most Appealing Benefit of Smart Thermostats – Smart Thermostat Non-owners



Q17. Which of the following is most appealing to you about owning a smart thermostat? Select one.

"Something else" was selected by 2% or fewer respondents

Customers' knowledge about data collection

More than half of the homeowners don't have an idea of how data is collected from their smart thermostat. 20% believe data collection is for energy/usage tracking and 15% mentioned it's use for product and service improvement.

2024	Total	Smart Therm. Owner	Smart Therm. Non-owner
I don't know/I have no idea/I'm not sure	52%	49%	53%
For energy and usage monitoring	20%	22%	20%
For product/service improvement and maintenance	15%	17%	14%
For manufacturer's marketing and advertising purposes	5%	5%	5%
Have concerns about data privacy and safety	4%	3%	5%
To sell/share information to 3rd parties	4%	3%	5%
Manufacturers don't collect/use customer data	3%	3%	2%
Through mobile phone	1%	1%	1%
Through WiFi	1%	1%	0%
Through research/analytics/survey	1%	1%	1%
Through the internet/cookies	1%	1%	1%
Through the App/Website	1%	1%	1%
Through buyer's/sign-up information/during installation	1%	0%	1%
Through data centers	0%	0%	0%
Through AI	0%	0%	0%
Others	2%	1%	2%

"I did not know manufacturers [used data] collected data from my smart thermostat." (Smart Therm. Owner)

"Manufacturer use data collected to improve product and services." (Smart Therm. Owner)

"To see how much a house uses in energy during (different) seasons." (Smart Therm. Owner)

"To sell it to other businesses." (Smart Therm. Owner)

"Usage is regulated through the app, using Bluetooth." (Smart Therm. Non-Owner)

"Data used to graph power usage during peak/non-peak periods for billing and mapping of monthly costs." (Smart Therm. Non-Owner)

"I really don't know. Patterns of use? Sell info to other company's (ies)." (Smart Therm. Non-Owner)

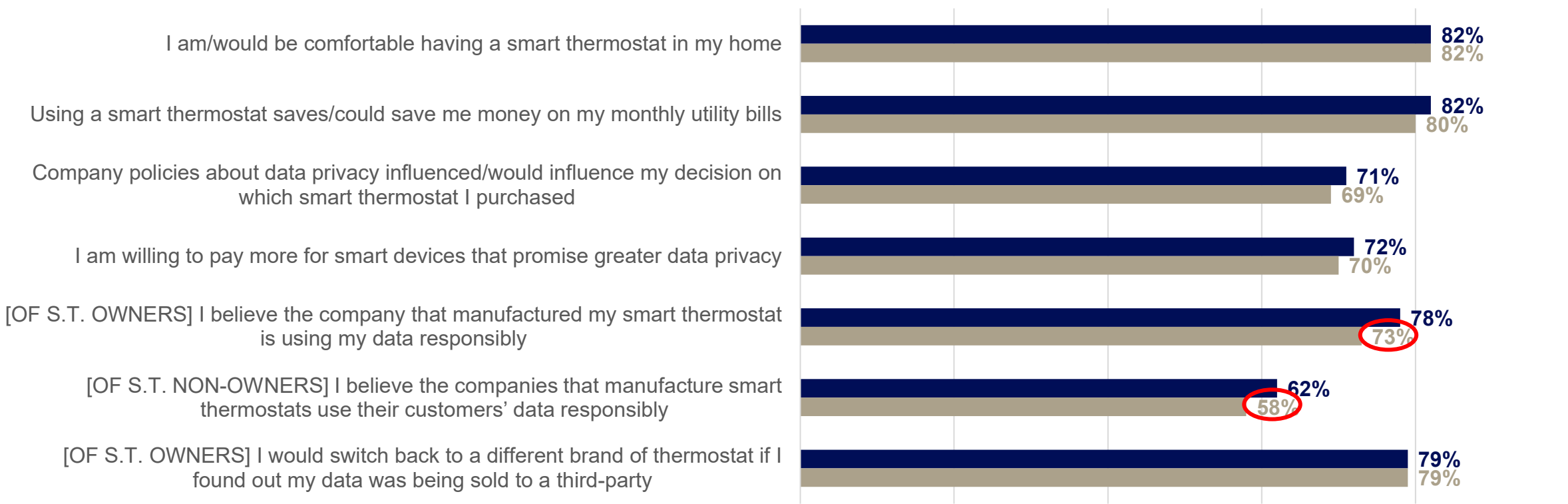
Total Agree (%): Smart Thermostats

The majority of homeowners still feel comfortable having a smart thermostat in their homes and feel that it could save them money. Both owners and non-owners of smart thermostats expressed less confidence in whether the manufacturers use their data responsibly.



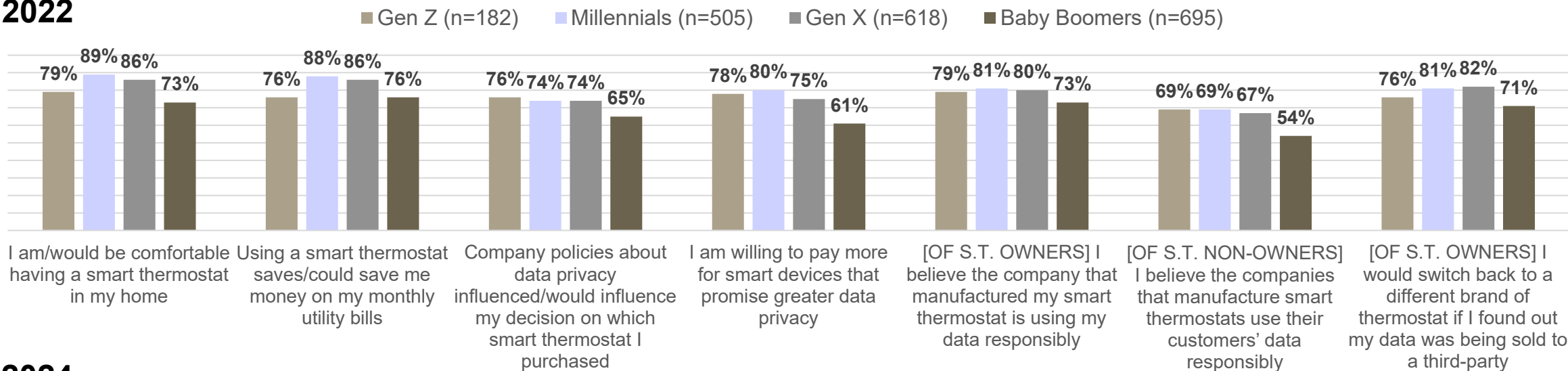
Millennials and Gen X are most likely to be comfortable having a smart thermostat in their home and believe it could save them money

■ 2022 Total (N=2000)
■ 2024 Total (N=2000)

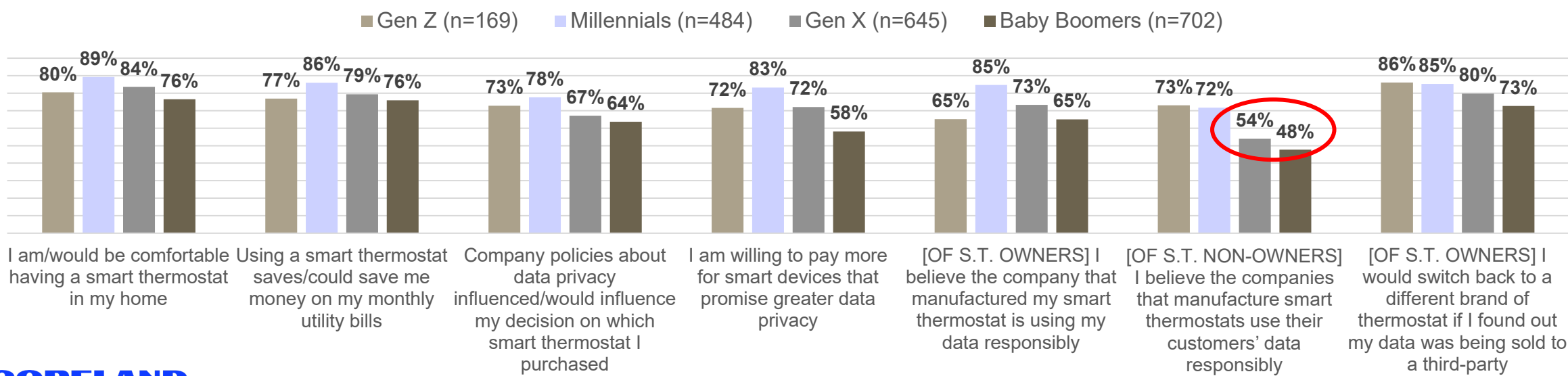


Total Agree (%): Smart Thermostats

2022



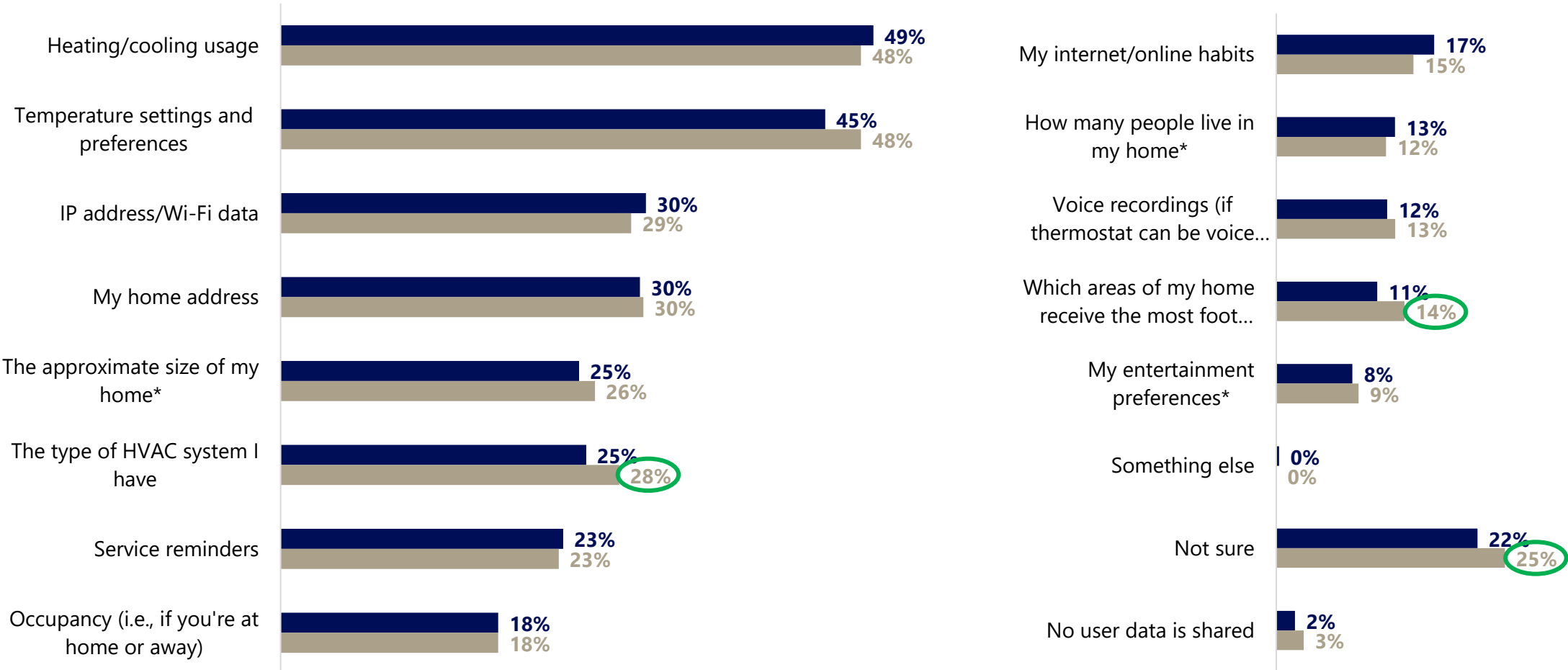
2024



Type(s) of User Data Shared with Smart Thermostat Manufacturers

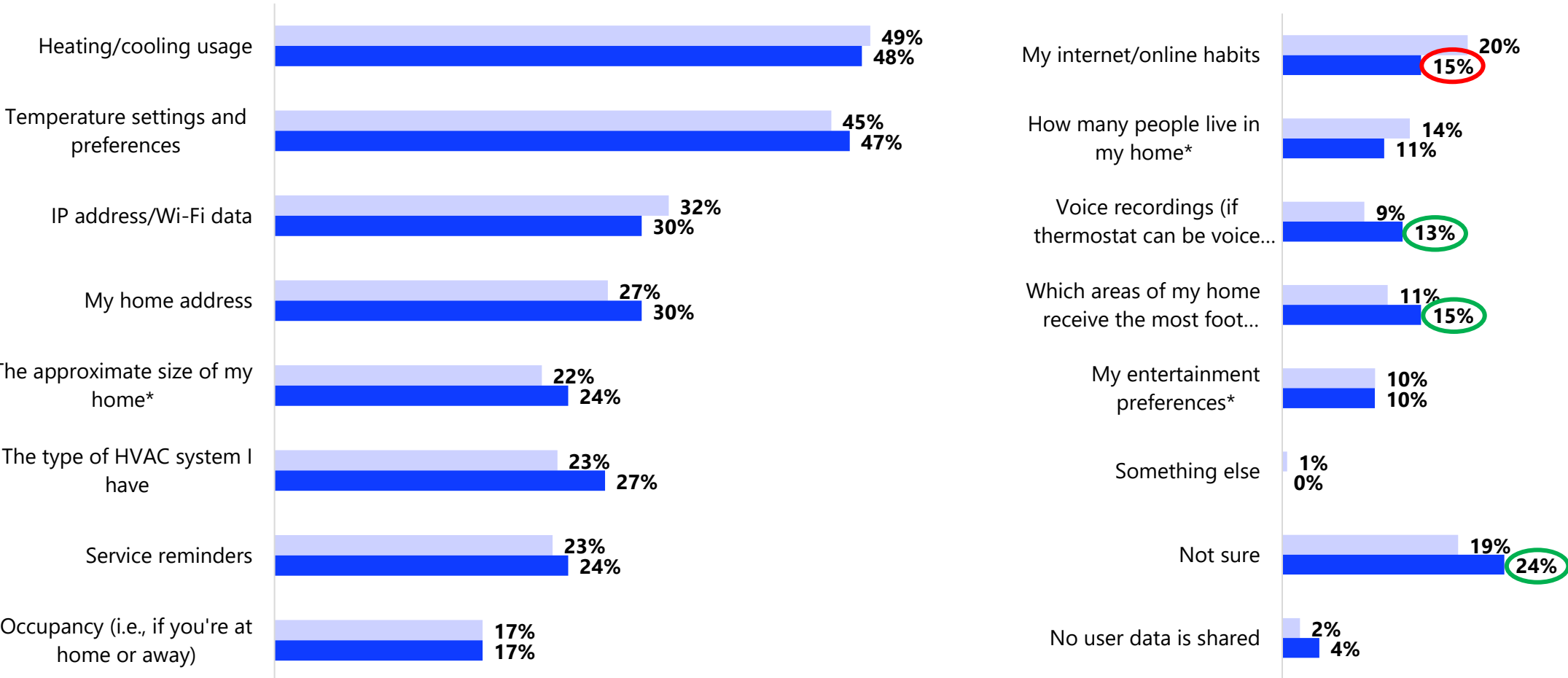
Almost half of homeowners believe that heating/cooling usage and temperature settings & preferences are being shared with manufacturers. 1 out 4 individuals are not sure about what is being shared with manufacturers.

■ 2022 Total (n=2000)
■ 2024 Total (n=2000)

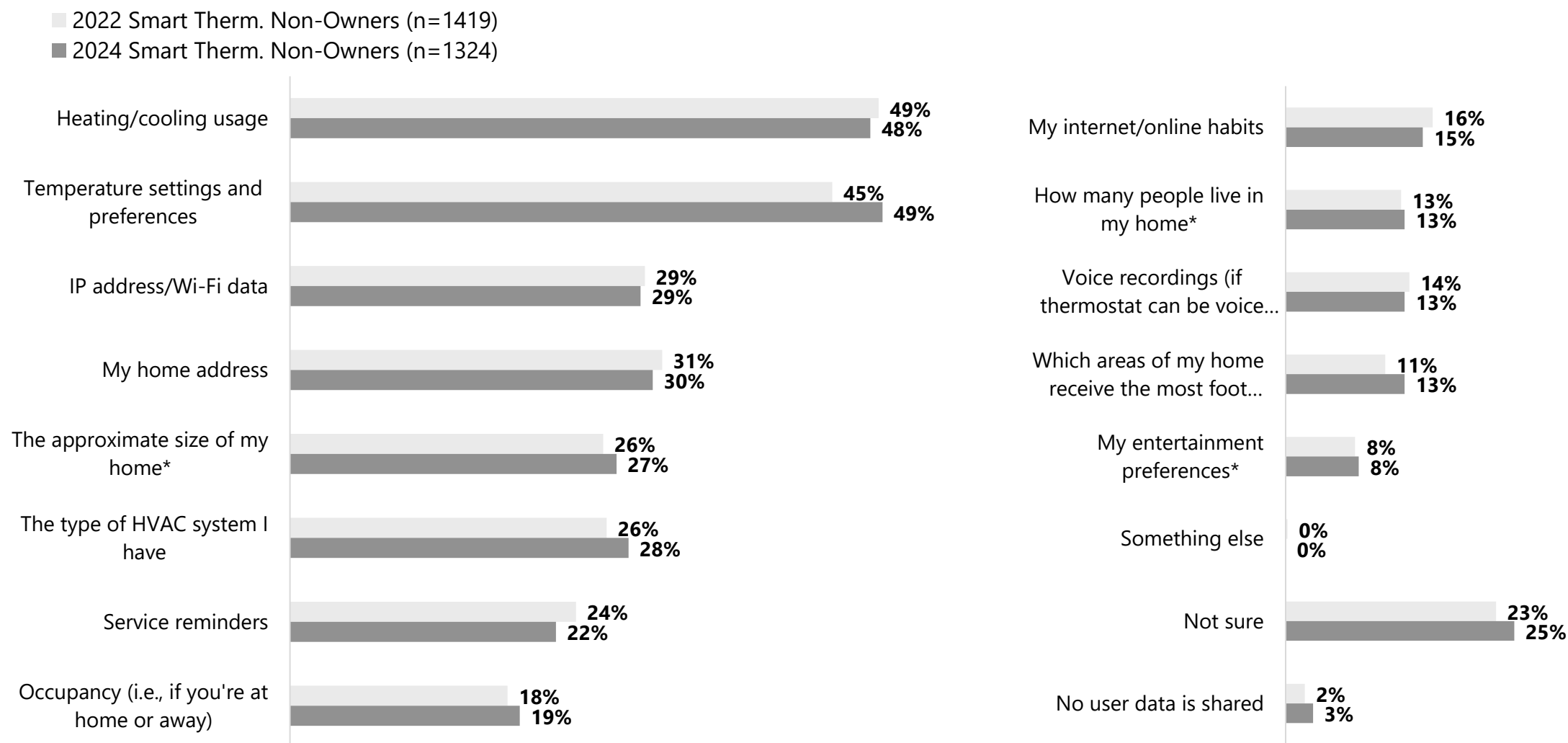


Type(s) of User Data Shared with Smart Thermostat Manufacturers

2022 Smart Therm. Owners (n=581)
2024 Smart Therm. Owners (n=676)

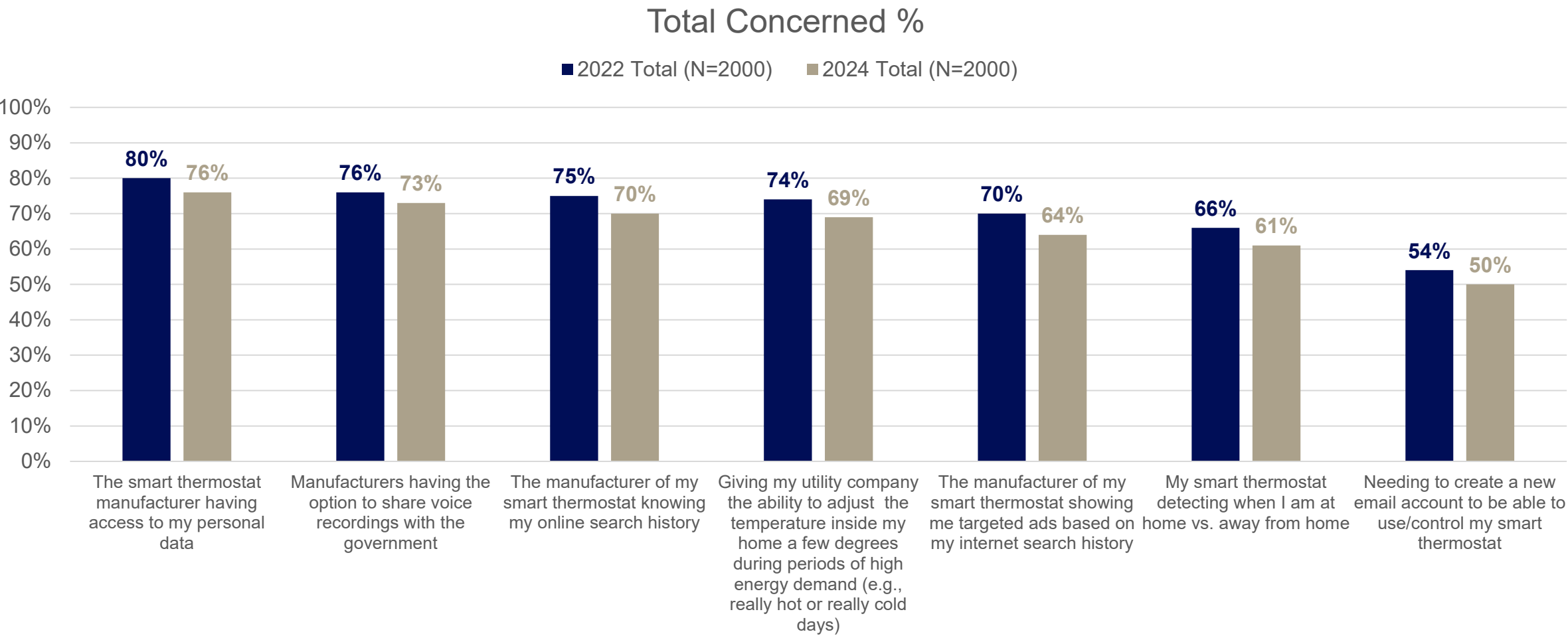


Type(s) of User Data Shared with Smart Thermostat Manufacturers

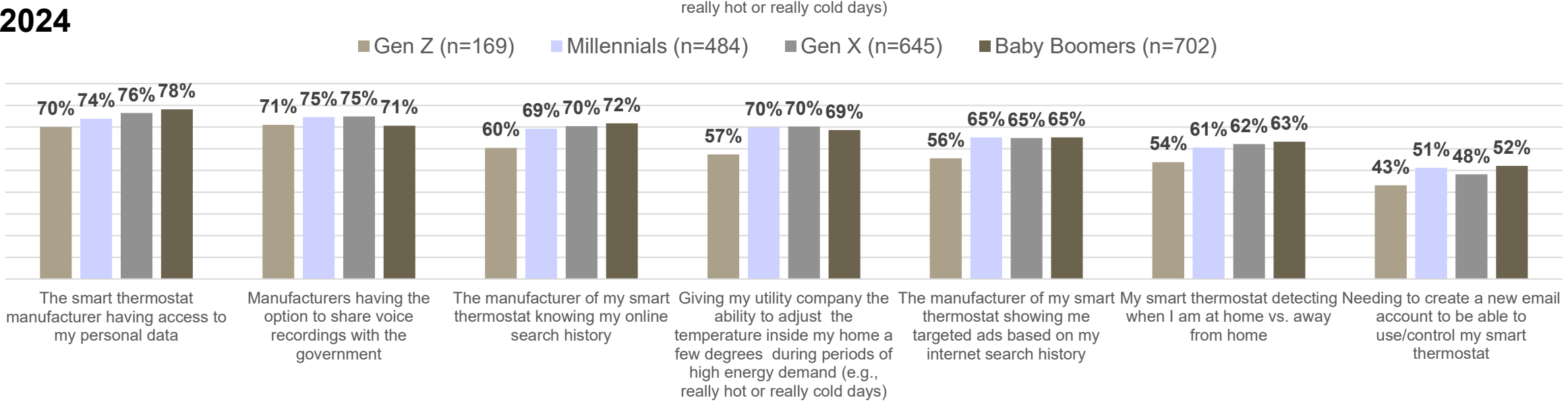
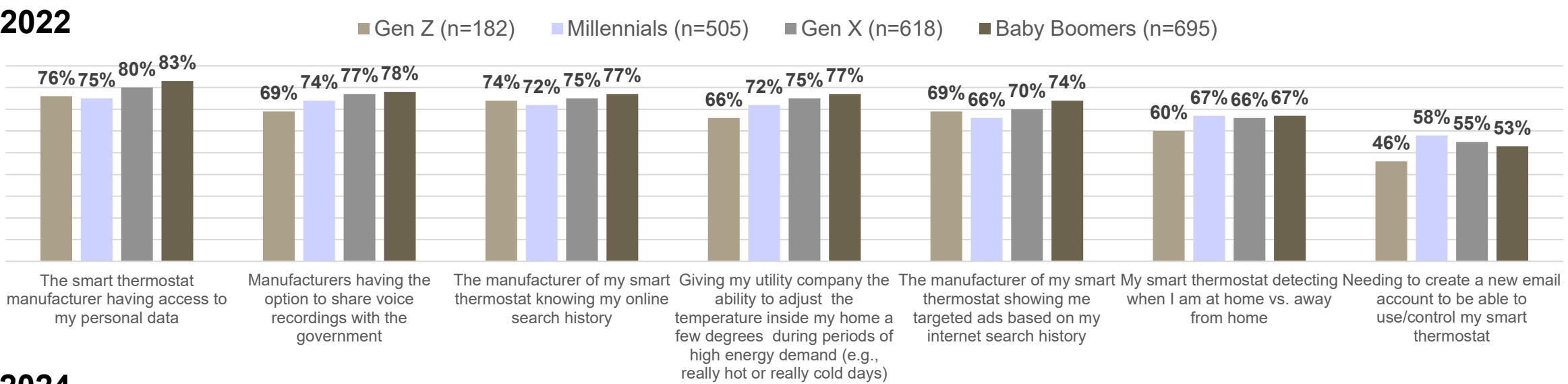


Level of Concern re: Smart Thermostats (Total Concerned)

Most homeowners still express concern about manufacturer's access to data.



Level of Concern re: Smart Thermostats (Total Concerned)



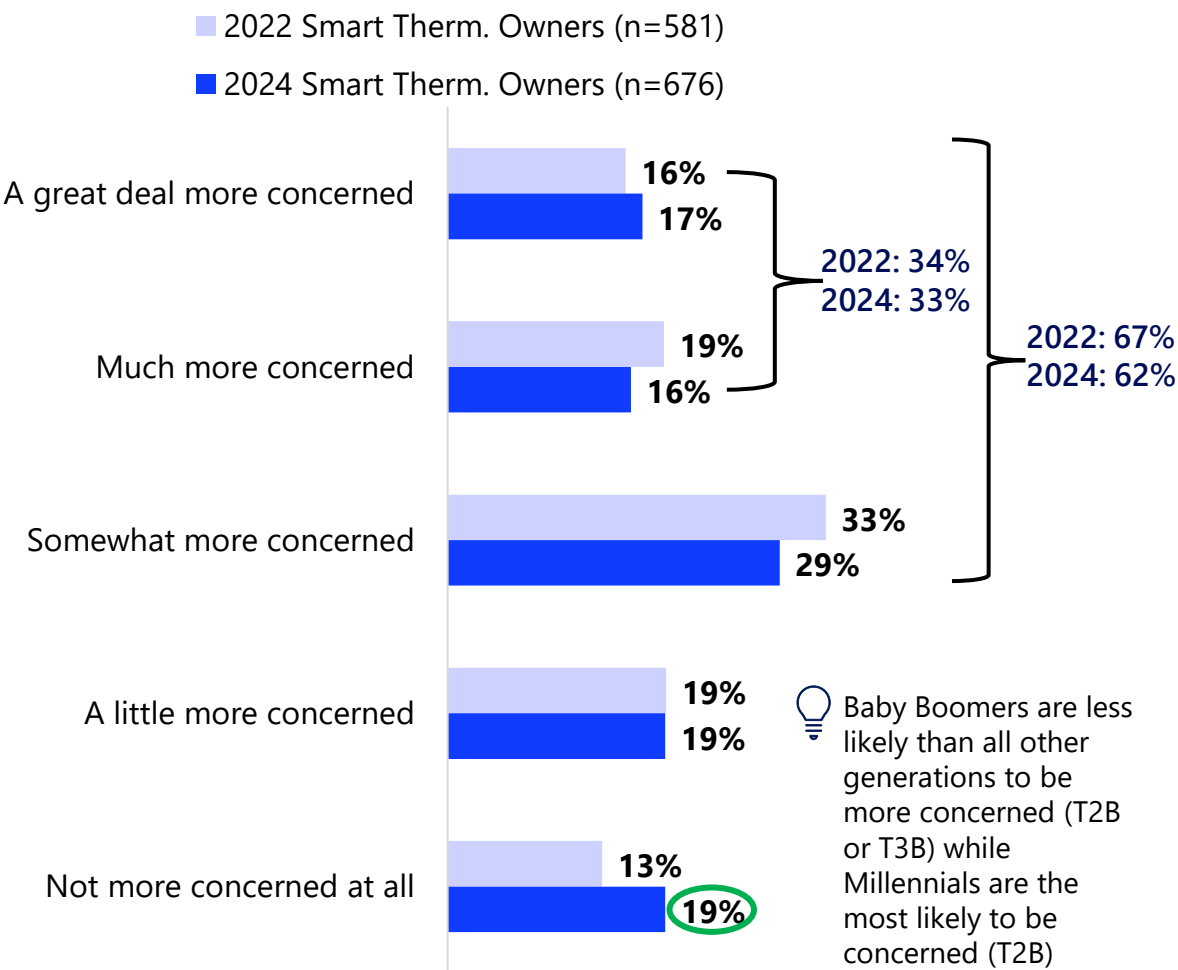
Impact of Smart Thermostat Facts on Level of Concern

Although, majority of customers still show same level of concern when presented with facts about smart thermostat but the portion of homeowners who are not more concerned at all significantly increased this year.

// Below is a **set of facts** about smart thermostats:

- Some manufacturers require users to create an account with them in order to use the thermostat. This means the manufacturer may be able to track your online activity and use your activity to send you targeted ads.
- Many smart thermostats have built-in occupancy sensors. These sensors can detect whether or not someone is in the room/is close to the thermostat.
- Some utility companies allow smart thermostat owners to voluntarily join a program that allows the utility company to control their home's temperature during periods of high demand, in exchange for a financial incentive (i.e., rebate, check, gift card).

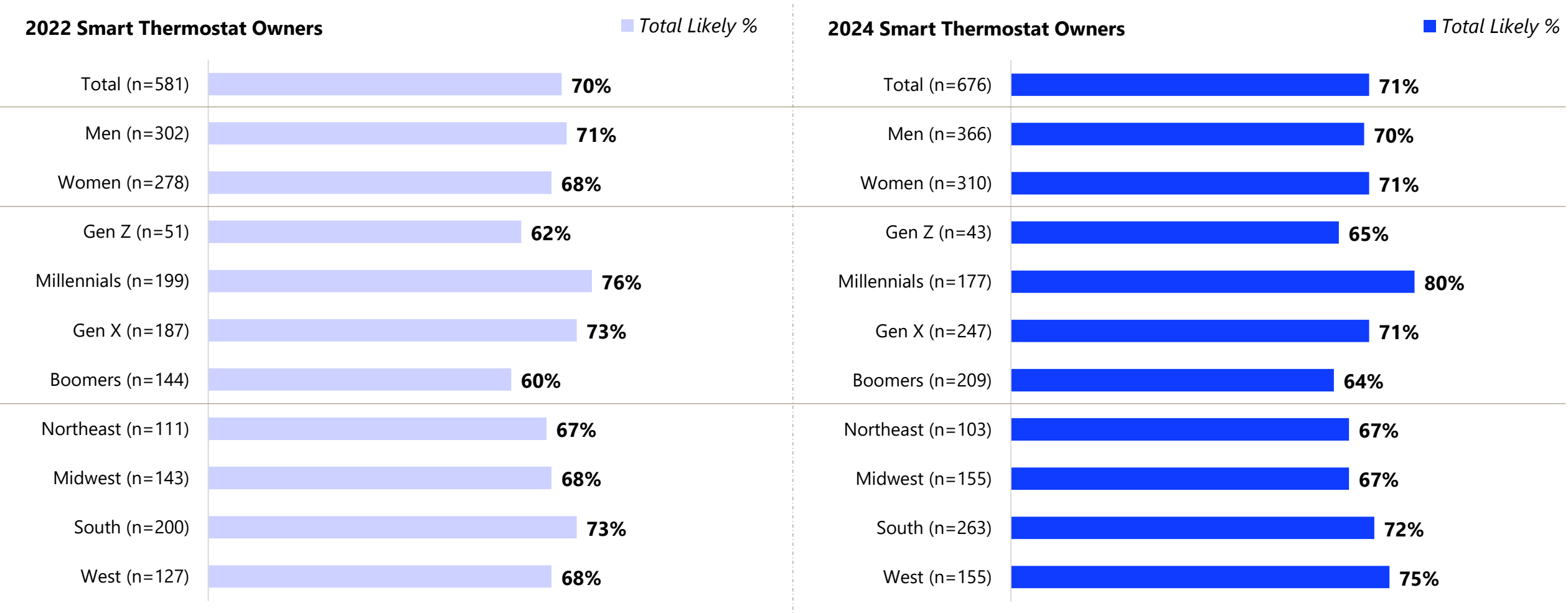
How do these facts affect your level of concern about using smart thermostats (if at all)?



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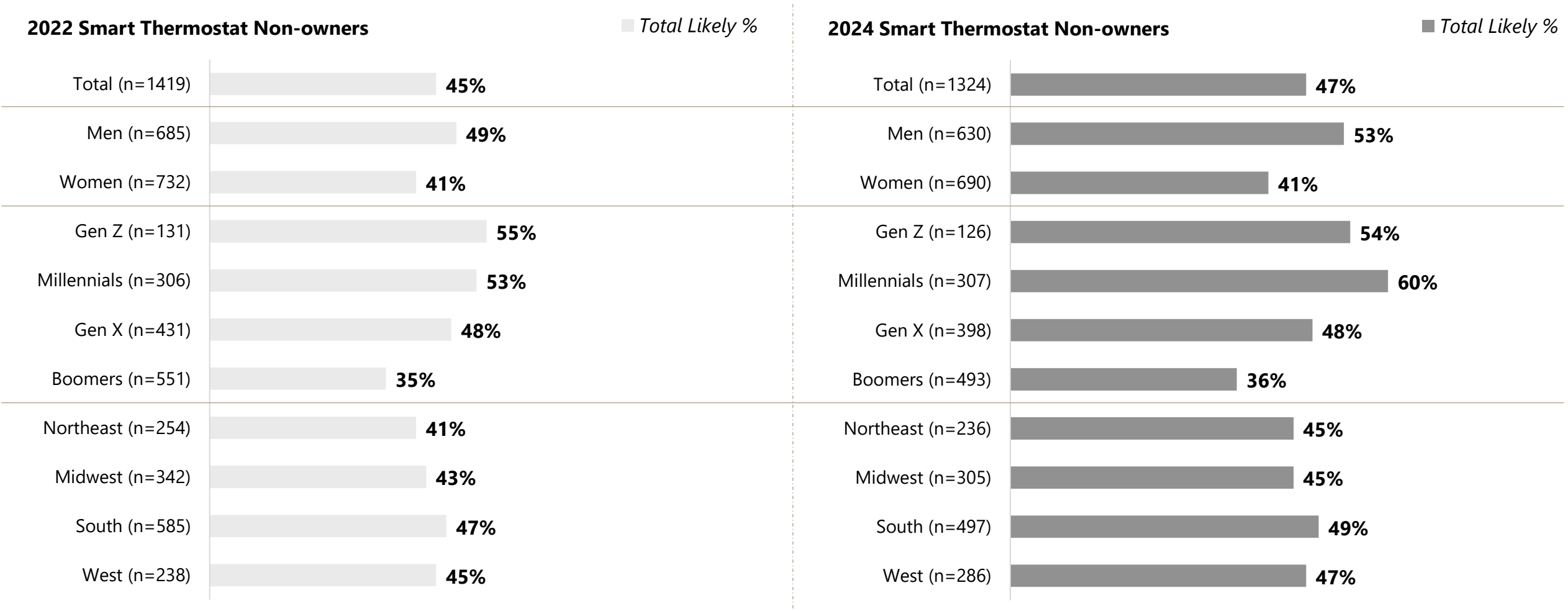
Likelihood of Replacing Smart Thermostat With “Private/Secure” Brand

7 out of 10 of homeowners are willing to replace their device with a thermostat with more privacy. Millennials are more willing than other groups.



Impact of “Private/Secure” Brand on Likelihood to Purchase in Next 12 Months

47% of non-owners say they are considering to buy in the next 12 months if brands offered more privacy.



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Respondent Profile



Smart thermostat owners are older compared to 2022.

	Total		Smart Therm. Owners		Smart Therm. Non-Owners	
year	2022	2024	2022	2024	2022	2024
base	2000	2000	581	676	1419	1324
Average age	49.1	50.4	46.3	49.8	50.3	50.7
Gen Z (18-25)	10%	9%	10%	6%	10%	10%
Millennials (26-41)	24%	24%	33%	26%	20%	23%
Gen X (42-57)	31%	32%	32%	37%	30%	30%
Baby Boomers (58-76)	35%	35%	26%	31%	39%	37%
Man	49%	50%	51%	54%	48%	48%
Woman	51%	50%	49%	46%	52%	52%
Other gender identity	<1%	<1%	<1%	<1%	<1%	<1%
Northeast	17%	17%	17%	15%	17%	18%
Midwest	23%	23%	23%	23%	23%	23%
South	38%	38%	33%	39%	40%	38%
West	22%	22%	26%	23%	20%	22%

Although more than half of non-owners are still married individuals, we see a decrease from 2022.

	Total		Smart Therm. Owners		Smart Therm. Non-Owners	
year	2022	2024	2022	2024	2022	2024
<i>base</i>	<i>2000</i>	<i>2000</i>	<i>581</i>	<i>676</i>	<i>1419</i>	<i>1324</i>
Single	16%	16%	13%	13%	17%	18%
Dating/in a relationship	9%	8%	10%	7%	9%	8%
Married	65%	64%	71%	74%	63%	59%
Separated, divorced or widowed	10%	11%	6%	6%	11%	14%
Prefer not to say	<1%	1%	--	1%	<1%	<1%
<\$50,000 HHI	20%	20%	8%	8%	25%	26%
\$50,000 to \$74,999 HHI	16%	17%	16%	13%	16%	18%
\$75,000 to \$99,999 HHI	15%	15%	16%	15%	15%	16%
\$100,000 to \$149,999 HHI	22%	23%	24%	27%	21%	20%
\$150,000 to \$199,999 HHI	12%	12%	14%	17%	11%	9%
\$200,000 or more HHI	15%	13%	22%	19%	12%	10%

There's more urban sample in 2024 than in 2022.

	Total		Smart Therm. Owners		Smart Therm. Non-Owners	
year	2022	2024	2022	2024	2022	2024
base	2000	2000	581	676	1419	1324
Caucasian/White	80%	82%	77%	82%	81%	81%
Black/African/Caribbean	10%	10%	10%	8%	10%	11%
Hispanic/Latino/Latina	7%	8%	9%	8%	6%	7%
Native Am./Indigenous or Pac. Islander	2%	2%	3%	2%	2%	2%
Arab or Middle Eastern	<1%	1%	1%	1%	<1%	0%
East Asian, South Asian or SE Asian	5%	5%	6%	7%	5%	3%
Something else	1%	1%	<1%	0%	1%	1%
Prefer not to say	<1%	0%	--	1%	<1%	0%
Urban	22%	26%	22%	25%	23%	26%
Suburban	55%	52%	64%	59%	51%	48%
Rural	23%	22%	13%	16%	27%	25%
Prefer not to say	<1%	1%	<1%	0%	<1%	1%

There's more 2-member household smart thermostat owners this year.

	Total		Smart Therm. Owners		Smart Therm. Non-Owners	
year	2022	2024	2022	2024	2022	2024
base	2000	2000	581	676	1419	1324
Household size: 1 (self only)	11%	13%	8%	8%	12%	15%
Household size: 2	38%	40%	34%	40%	39%	40%
Household size: 3	21%	17%	21%	17%	21%	16%
Household size: 4	20%	20%	24%	22%	17%	18%
Household size: 5 or more	11%	11%	12%	12%	10%	10%
*Live with spouse/my partner	83%	81%	89%	87%	80%	78%
*Live with child(ren) 17 or younger	39%	38%	47%	43%	36%	35%
*Live with child(ren) 18 or older	16%	15%	13%	14%	18%	15%
*My parent(s)	9%	9%	7%	7%	10%	10%
*Other family member(s)	9%	8%	5%	6%	10%	9%
*Roommate(s) or friend(s)	3%	3%	3%	2%	4%	3%
*Others	1%	1%	<1%	1%	1%	1%
*Prefer not to say	<1%	1%	-	0%	<1%	1%

	Total		Smart Therm. Owners		Smart Therm. Non-Owners	
year	2022	2024	2022	2024	2022	2024
base	2000	2000	581	676	1419	1324
Age of home: Less than 10 years old	15%	15%	19%	18%	13%	13%
Age of home: 10 to 19 years old	16%	15%	18%	16%	14%	14%
Age of home: 20 to 29 years old	18%	17%	16%	20%	19%	16%
Age of home: 30 to 39 years old	13%	12%	13%	10%	12%	13%
Age of home: 40 to 49 years old	11%	11%	11%	11%	12%	12%
Age of home: 50 to 59 years old	10%	10%	9%	10%	11%	10%
Age of home: 60 years or older	15%	18%	12%	15%	17%	20%
Not sure	2%	2%	1%	1%	2%	2%