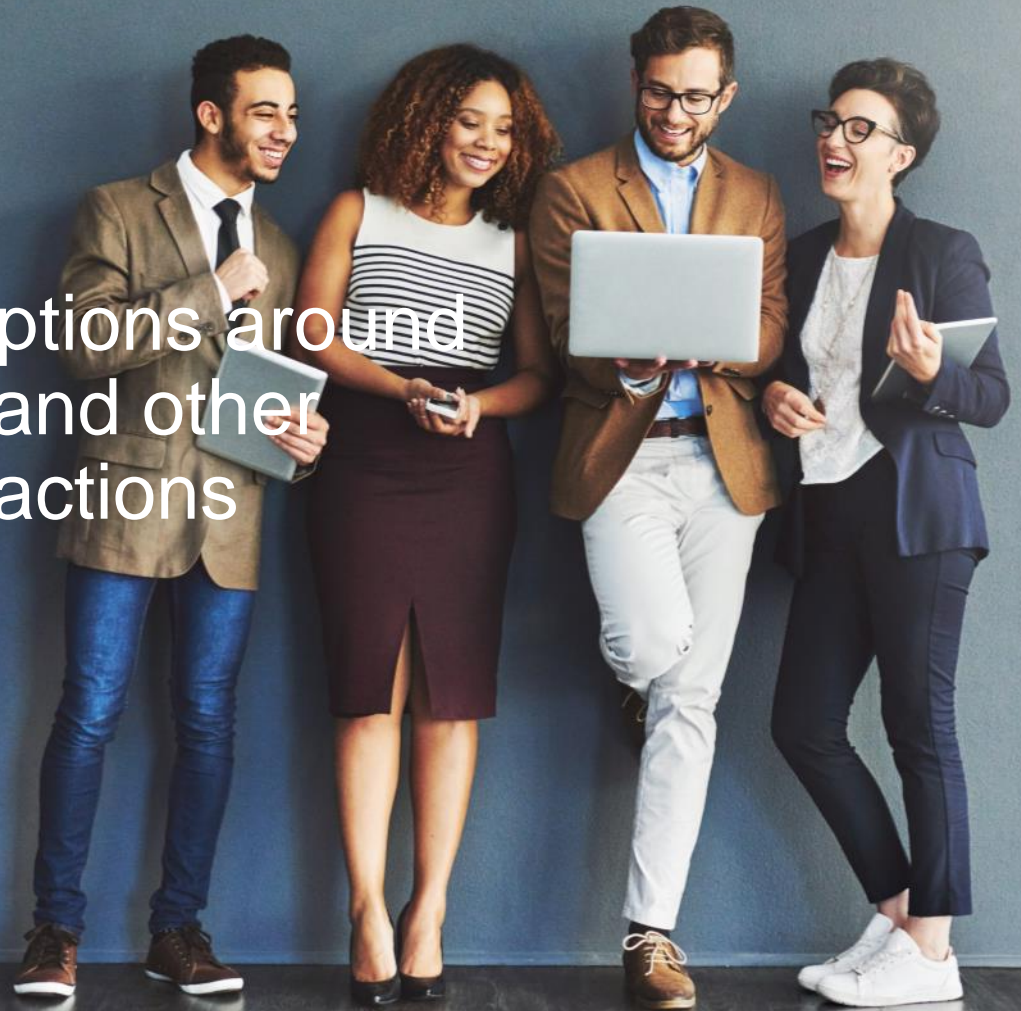


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# Consumer perceptions around drone deliveries and other AI-enabled transactions

2018



# Methodology

Survey consumer awareness and experience with artificial intelligence experiences through an online consumer panel in April 2018

507 Consumers Ages 18+



# Key Takeaways

While there is a great deal of buzz around self-driving autonomous vehicles and delivery drones, very few people have direct experience with them

- The AI systems that consumers have the greatest experience with are customer service related systems
- This appears to be perceived as more common among the older generations, Retirees and Boomers

Positive anticipation of AI automation across a variety of use cases is higher among Gen Z and Millennials than older generations

Two to five years is the anticipated time-frame in which consumers believe that having items delivered to the home will be “normal”

Clothing, non-perishable groceries, and pet supplies are rated most highly in terms of what they are comfortable being delivered by a self-guided robot or drone

- Comfort is much higher among the younger Gen Z segment
- With the exception of Retirees, these items are also what consumers are most comfortable not being present for to take delivery

Items that are more valuable, perishable, and sensitive are what consumers feel is more trustworthy to have a human delivery agent rather than an AI drone or autonomous robot

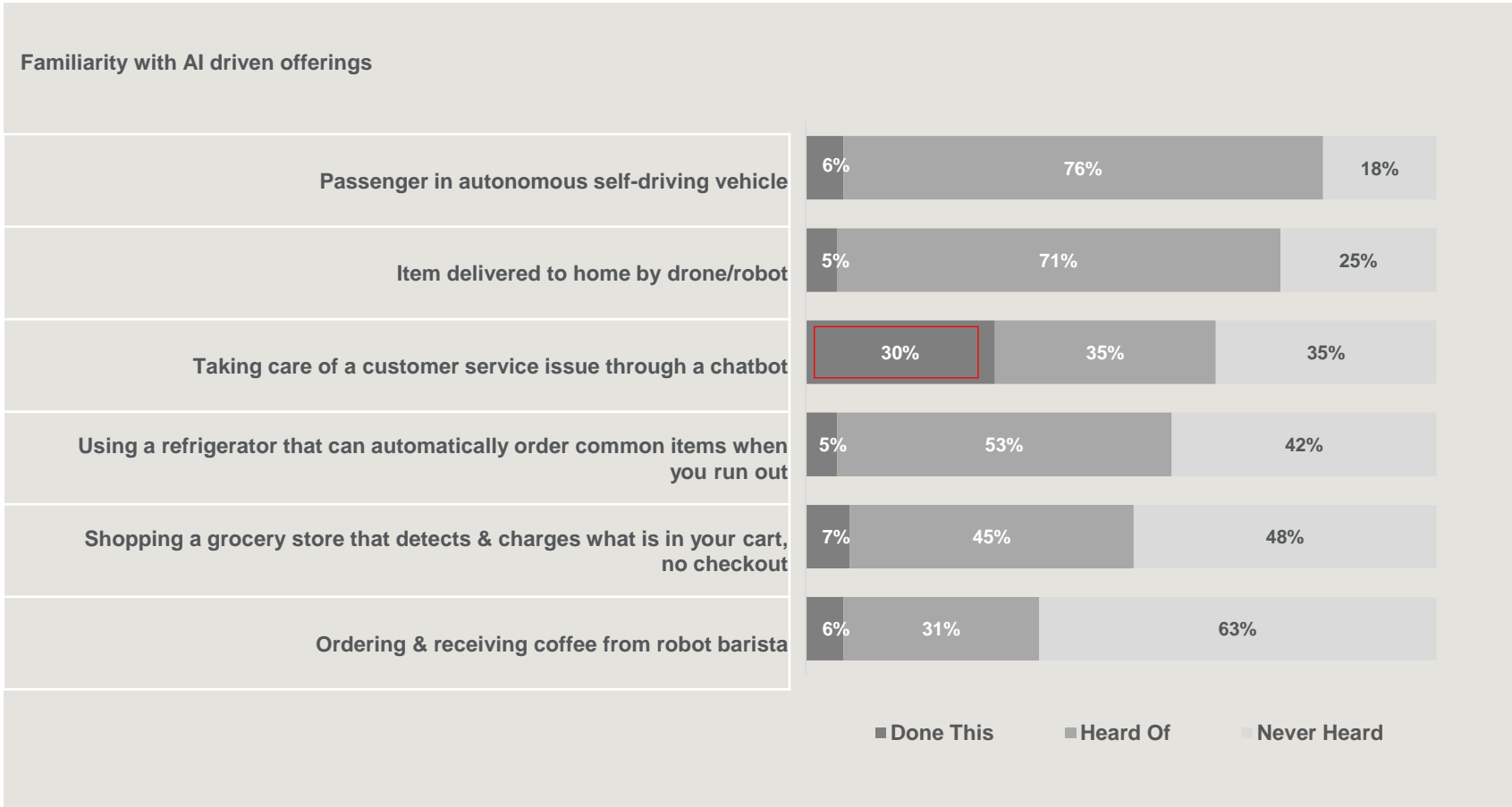
- These items are also what consumers are most comfortable not being home to take delivery of

# Data



With the exception of a customer service chatbot, people have little experience with direct engagement of an AI driven drone or robot

- Self-driving vehicles and drone/robot delivery agents are items that they have heard the most about
- Few consumers are even aware of a robot barista



Base: Total Consumers (n=507)

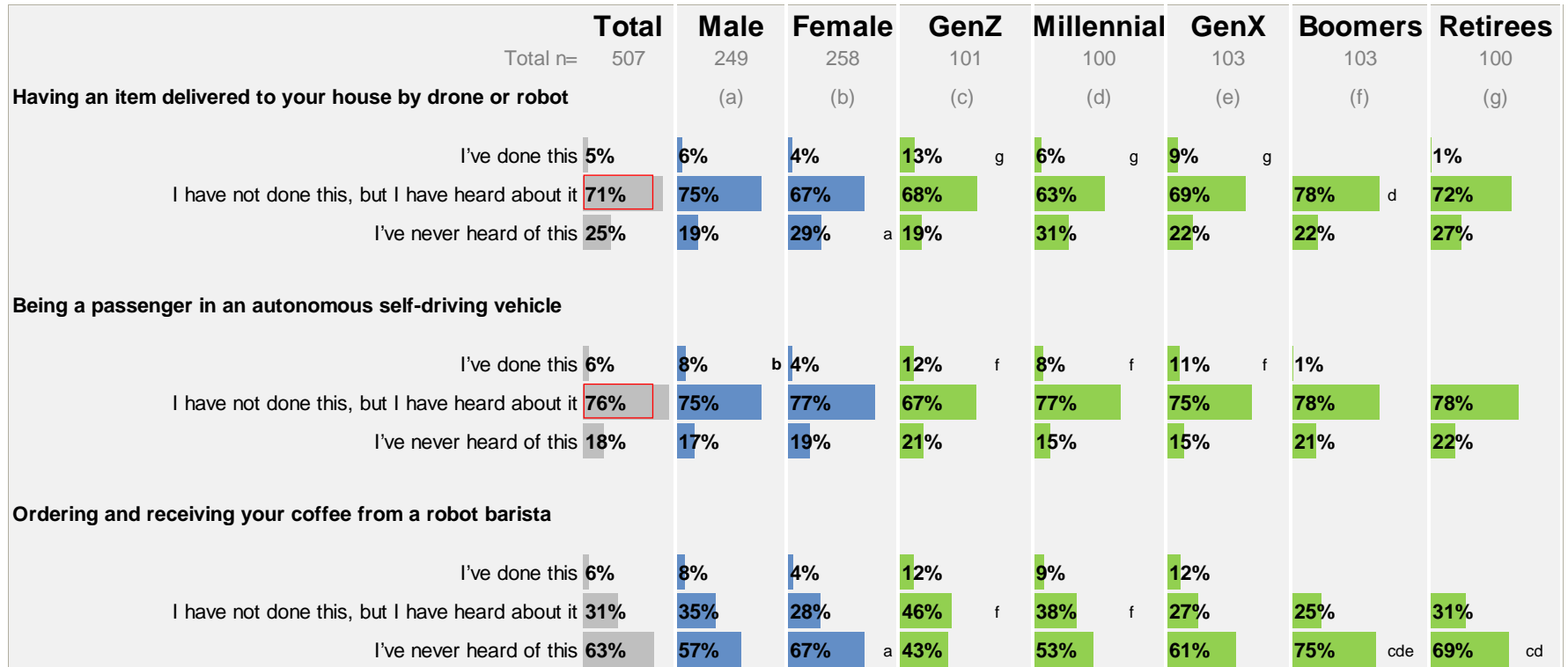
Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M400. How familiar are you with each of the following?

# Drone deliveries and self driving vehicles are generating the most buzz and awareness among consumers

- Few consumers have had any experience or even awareness of robot barista's

## Familiarity with AI driven offerings



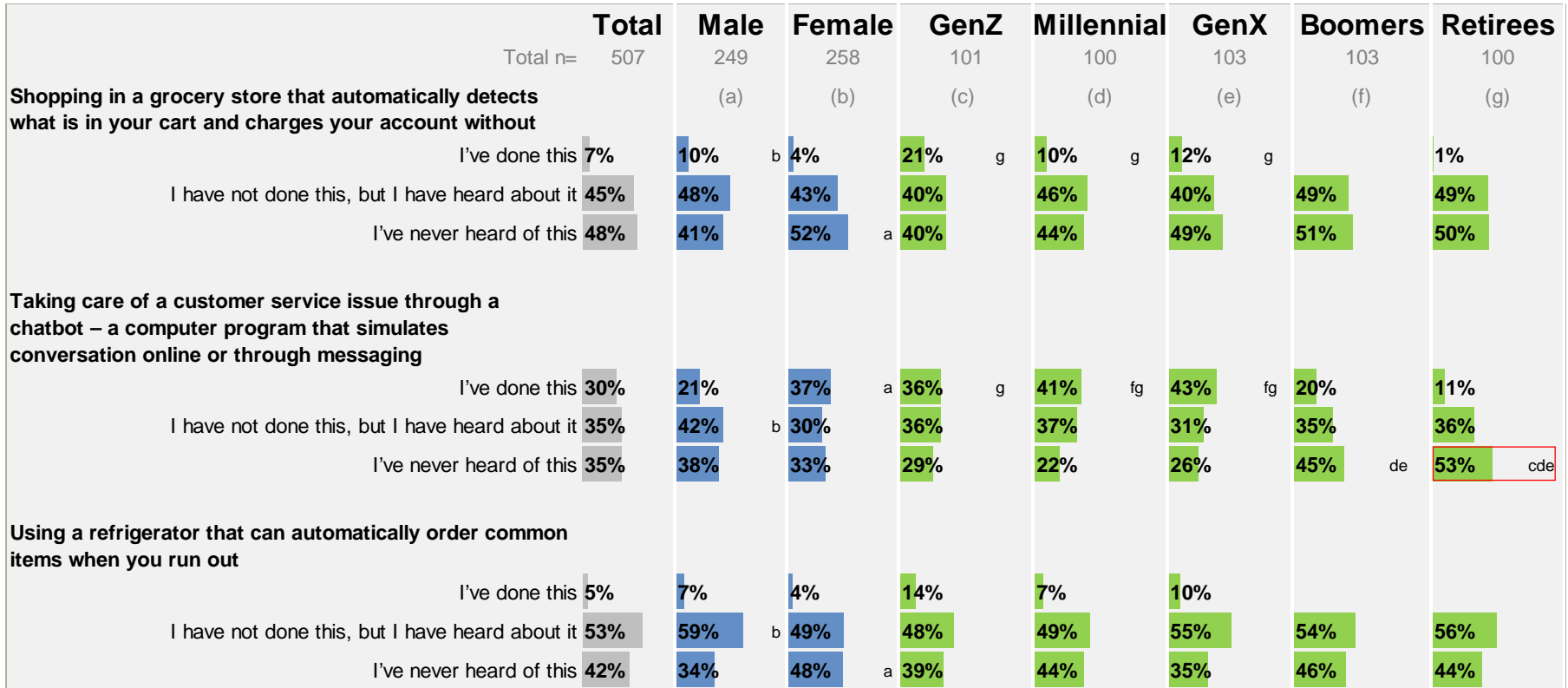
Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M400. How familiar are you with each of the following?

With the exception of Retirees, the majority of people have used or heard of using a chatbot AI system for a customer service enquiry.

Familiarity with AI driven offerings



Base: Total Consumers

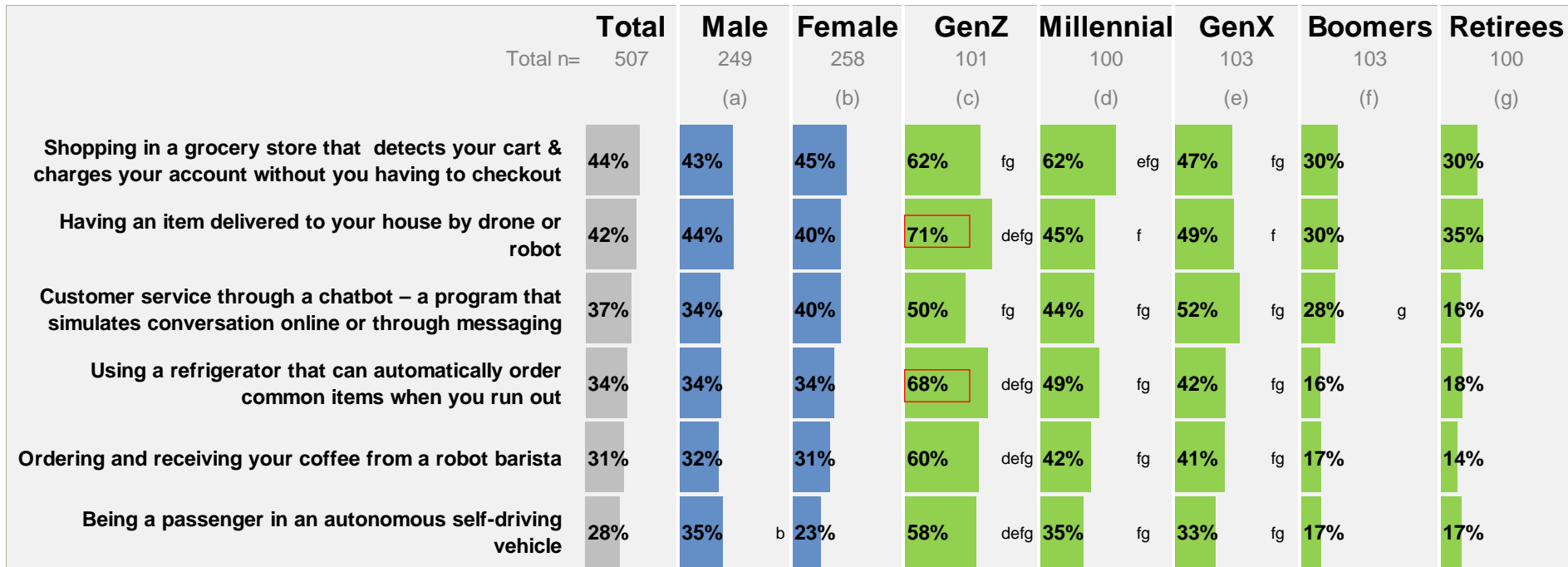
Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M400. How familiar are you with each of the following?

## Overall, less than half of consumers are looking forward to engaging with a robot or AI drone

- Younger generations are significantly more interested than older generations

### Top Two Box Percent Stating Would Love/Like To



Base: Total Consumers

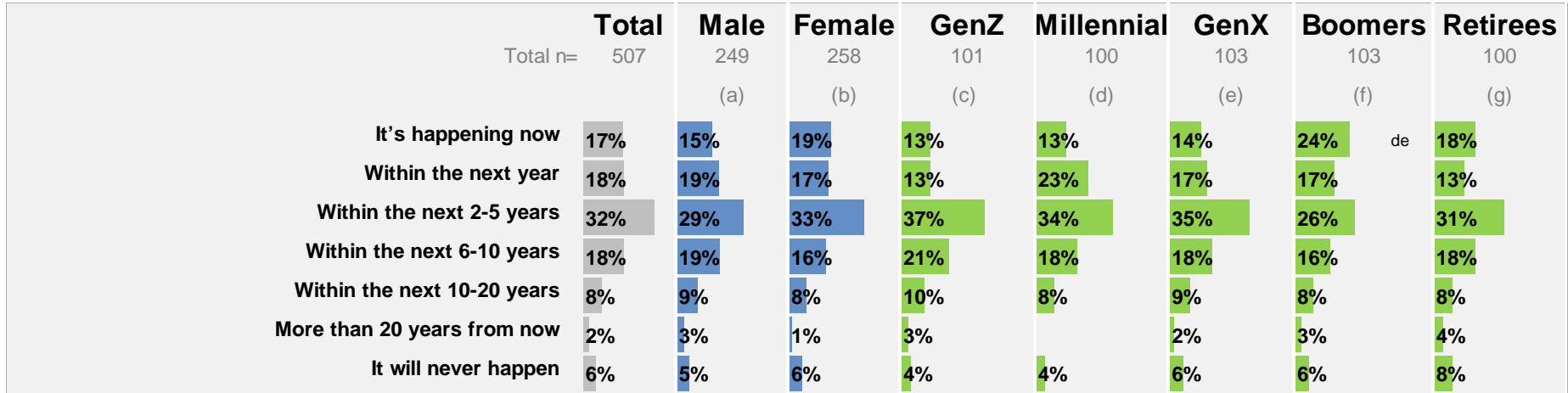
Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M401. How much would you like or dislike to do each of the following within the next 12 months?



There is a great deal of agreement across gender and generations in terms of when they expect packages and food to be delivered to their homes by a drone or robot, within the next two to five years

**Percent Stating When Drones/Robots Will Be Delivering Items**



Base: Total Consumers

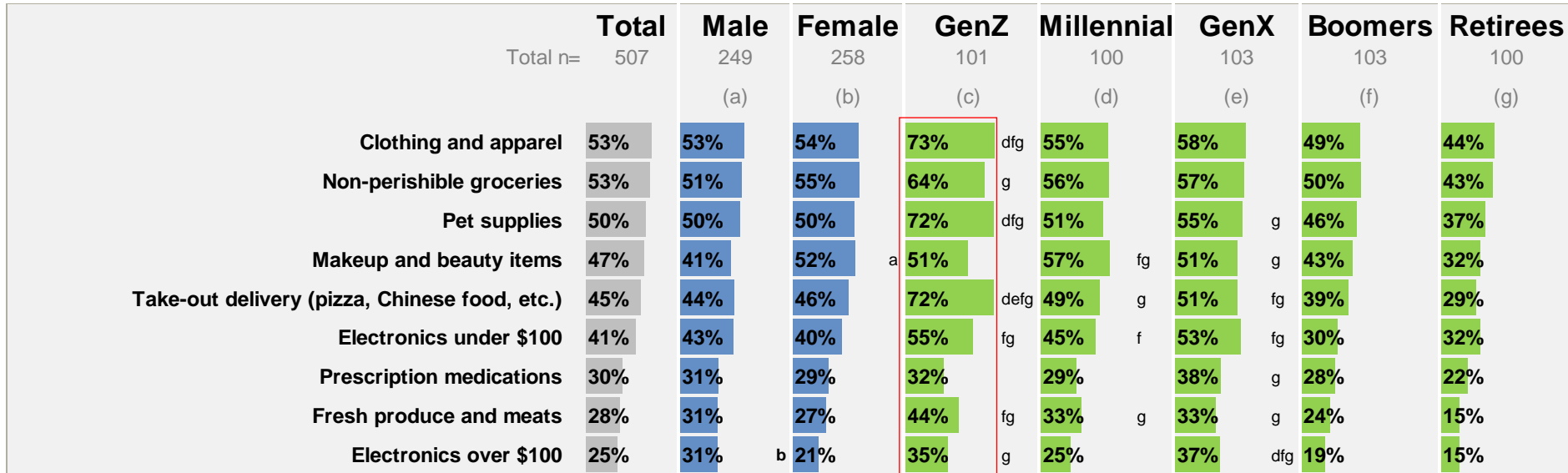
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M402. How far into the future do you think it will be when the normal way of having packages/food delivered to your house is by drone/robot?

## Clothing, non-perishable groceries, and pet supplies are noted by half or more consumers as items appropriate for automated delivery

- Gen Z considers a wider range of items appropriate compared to older generations

**Top Two Box Percent Stating Very/Somewhat Comfortable**



Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M403. How comfortable or uncomfortable are you with having each of the following items delivered by drone or self-guided robot to your home?

## Overall, perishable, expensive, and sensitive items are ranked as most important for consumers to be home and present to take delivery

- Retirees tend to feel overall that it is more important to be home and present for delivery

### Must Be Home

	Total	Male	Female	GenZ	Millennial	GenX	Boomers	Retirees
	Total n= 507	249	258	101	100	103	103	100
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
Take-out delivery (pizza, Chinese food, etc.)	89%	88%	90%	84%	88%	84%	91%	94% <sup>e</sup>
Fresh produce and meats	88%	88%	89%	91%	86%	83%	92% <sup>e</sup>	93% <sup>e</sup>
Electronics over \$100	87%	85%	89%	86%	87%	85%	89%	88%
Prescription medications	84%	83%	84%	91% <sup>d</sup>	79%	81%	86%	88%
Electronics under \$100	65%	66%	65%	75% <sup>e</sup>	66%	56%	66%	73% <sup>e</sup>
Non-perishable groceries	49%	56%	45% <sup>b</sup>	50%	51%	45%	45%	64% <sup>ef</sup>
Clothing and apparel	45%	50%	41% <sup>b</sup>	56%	44%	38%	41%	59% <sup>def</sup>
Makeup and beauty items	43%	47%	40%	51%	47%	38%	37%	51% <sup>f</sup>
Pet supplies	38%	45%	33% <sup>b</sup>	46%	33%	35%	36%	50% <sup>def</sup>

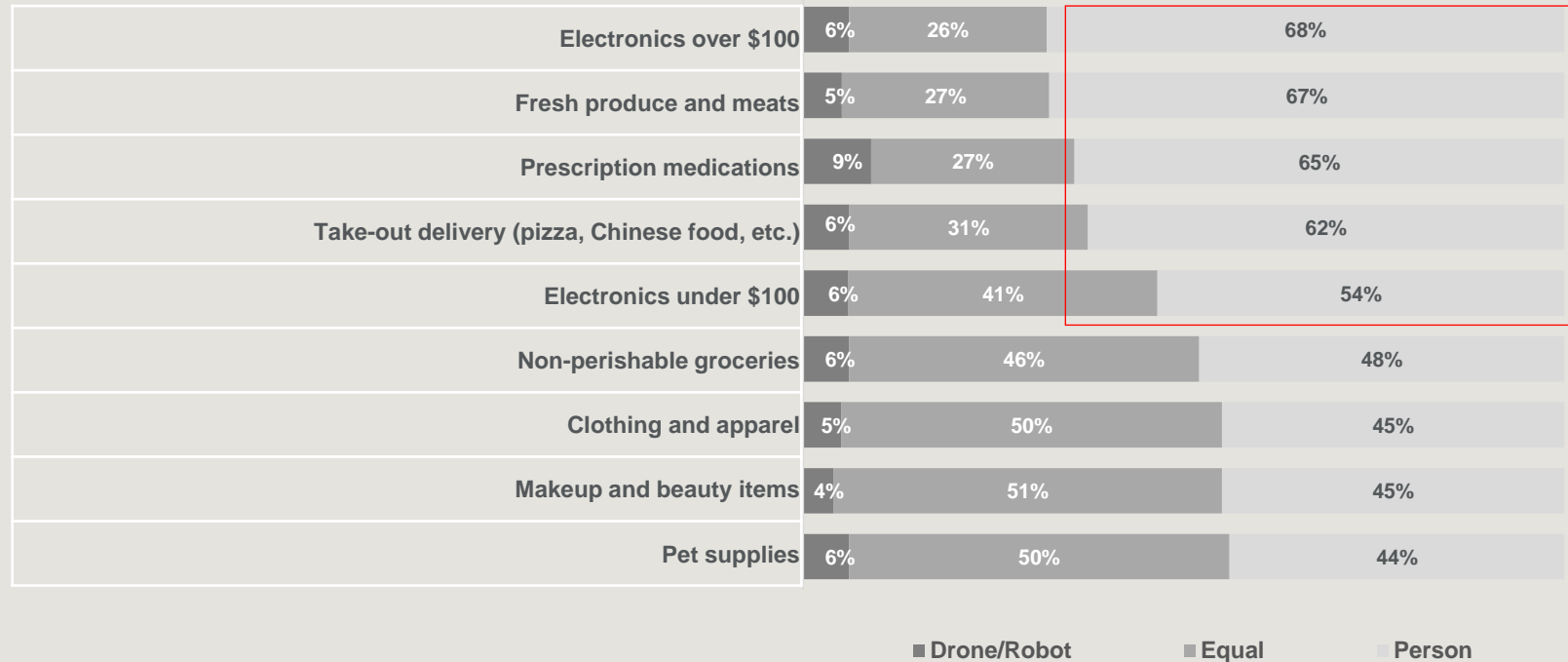
Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M404. Assuming a drone/self-guided robot is delivering each, how do you feel about being home versus not being home at the time of delivery?

Items that are more valuable, perishable, and sensitive are also more trusted to be delivered by a person rather than a drone or robot

**Percent Stating Trust In Delivery Vehicle**



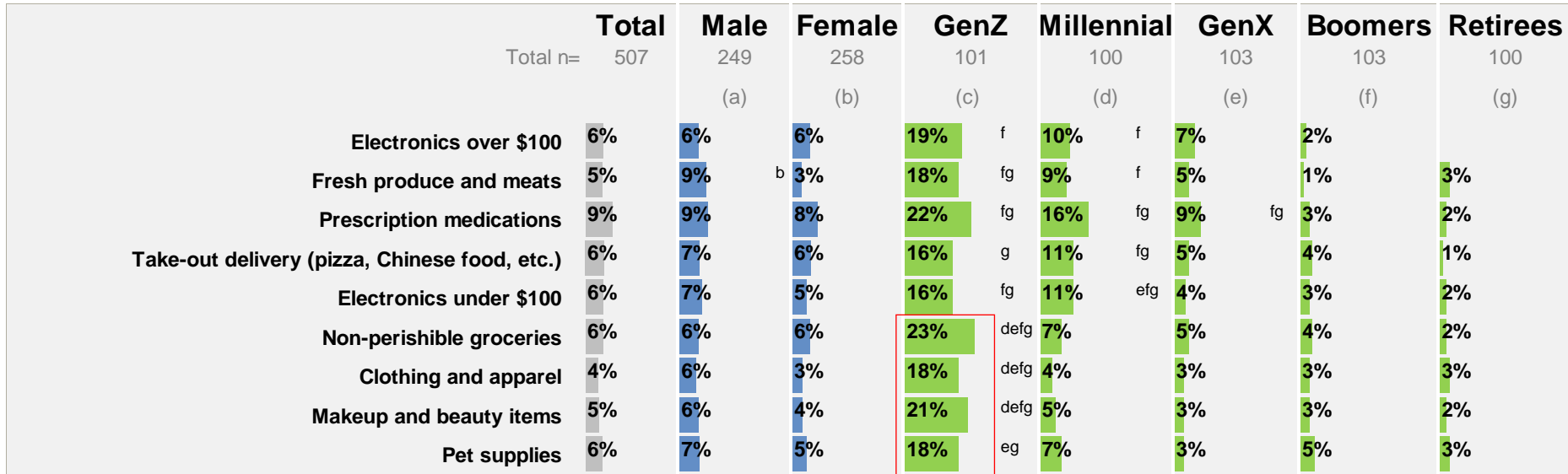
Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M405. Which would you trust more to correctly and safely deliver each of the following to your home?

# Gen Z has a greater trust in automated drone or robot delivery than do other generations, regardless the item

Percent Stating Trust In Drone/Robot Delivery



Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M405. Which would you trust more to correctly and safely deliver each of the following to your home?

## There is relatively lower agreement that drones and robots would decrease delivery errors to the wrong address or reduce product damage

- Gen Z sees much stronger benefits in terms of convenience, scheduling delivery times in advance, and improving the quality of life for elderly. Interestingly this is not seen as an advantage by the older generations

### Strongly/Somewhat Agree – Impact Of Flying Drones/Self Guided Robots Delivery

	Total	Male	Female	GenZ	Millennial	GenX	Boomers	Retirees
	Total n= 507	249	258	101	100	103	103	100
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
It would reduce street traffic	69%	67%	70%	75%	75%	69%	66%	61%
Can schedule my delivery time in advance	63%	60%	64%	80%	63%	62%	59%	62%
Real-time tracking of where your delivery is enroute	63%	60%	64%	70%	68%	64%	56%	60%
Items would be delivered faster	59%	53%	63%	77%	64%	58%	54%	51%
Reduces shipping costs	55%	52%	57%	68%	60%	59%	48%	50%
It would reduce pollution	52%	49%	54%	58%	56%	51%	49%	48%
Improves quality of life for elderly	50%	47%	52%	72%	55%	46%	43%	52%
Would not have to pay until items arrive at my house	48%	50%	46%	60%	48%	52%	39%	52%
Less chance of items being delivered to wrong address	38%	37%	38%	52%	45%	50%	22%	31%
Less chance of items being damaged in transit	37%	34%	40%	50%	45%	43%	28%	29%

Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M406. How much do you agree or disagree each of the following are benefits of having flying drones or self-guided robots deliver items?

Overall, there is not a great deal of concern related to having flying drones or self-guided robots deliver items to the home

Extremely/Somewhat Concerned

	Total	Male	Female	GenZ	Millennial	GenX	Boomers	Retirees
Total n=	507	249	258	101	100	103	103	100
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
<b>Drone/Robot would deliver to wrong person/address</b>	<b>39%</b>	<b>41%</b>	<b>38%</b>	<b>47%</b>	<b>42%</b>	<b>41%</b>	<b>35%</b>	<b>35%</b>

Base: Total Consumers

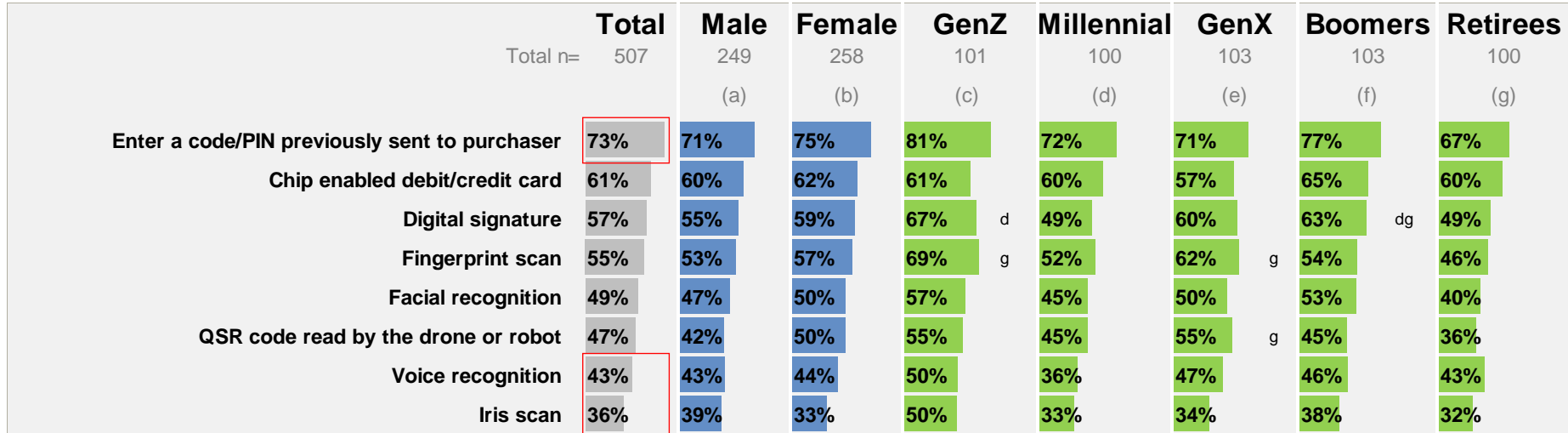
Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M408. How concerned would you be that the drone or robot delivery would be delivered to the wrong person or address?

## PIN coded delivery security is the most preferred security measure

- Biometric methods are the least appealing

### Very/Somewhat Appealing – Ways Drone/Robot Could Validate Delivery



Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

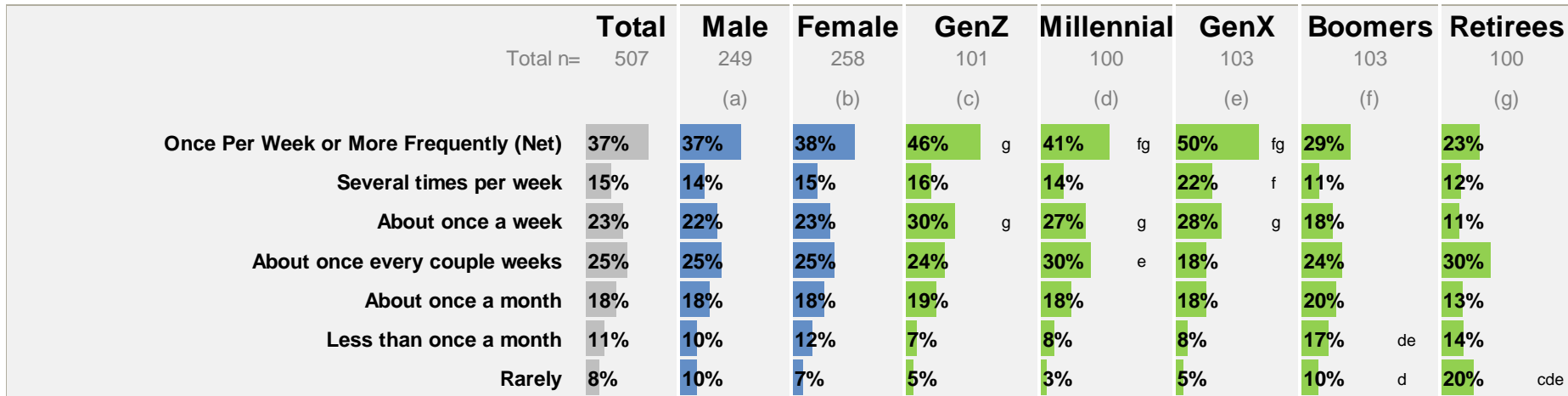
M409. How appealing or unappealing is each of these ways that a drone or robot could validate that the delivery is being received by the correct person?



## Almost two-in-five consumers have deliveries arrive at their homes once per week or more often

- Younger generations tend to receive more deliveries than older generations

### Frequency Of Deliveries



Base: Total Consumers

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M410. Which of the following best describes how frequently you have items delivered to your home?

## Among those who take frequent deliveries, the front door is the primary delivery location

- Gen Z and Millennials tend to have deliveries left in their mailbox more often than older generations, but this is still far less frequent than the front door

### Frequency Of Deliveries – Where Are Delivery's Made To Home

	Total	Male	Female	GenZ	Millennial	GenX	Boomers	Retirees
	Total n= 466	222	242	96	97	98	93	80
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
Left at my front door	72%	70%	74%	56%	60%	76% <sup>cd</sup>	83% <sup>cd</sup>	75% <sup>d</sup>
Left in my mailbox	12%	11%	12%	23% <sup>f</sup>	18% <sup>f</sup>	9%	5%	13%
Delivered to a doorman/front desk	6%	6%	7%	18% <sup>fg</sup>	8% <sup>g</sup>	7% <sup>g</sup>	3%	1%
I typically have to sign for deliveries	6%	8%	5%	2%	6%	6%	6%	6%
Delivered to post office where I pick it up	3%	4%	3%	1%	8% <sup>cef</sup>	2%	1%	3%
Something else, please specify:	1%	1%	0%				1%	3%

Base: Have Items Delivered More Often Than Rarely

Letters denote significant differences at the 95% confidence level. \*\* Indicates very low sample size.

M411. Which of the following best describes how deliveries are typically made to your home?

# Conclusion



Consumers like the flexibility and scheduling capabilities associated with drone delivery but there's a lack of trust in allowing delivery across a variety of items.

While many consumers believe drone delivery will be the norm in the next two to five years, many are still unable to fully conceptualize the realities associated with how those deliveries occur and how it impacts their lives.

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