How to accelerate climate action? Understanding mainstream adopters

Fionn Rogan (UCC), Shane Timmons (ESRI), Diarmaid Ó Ceallaigh (ESRI)

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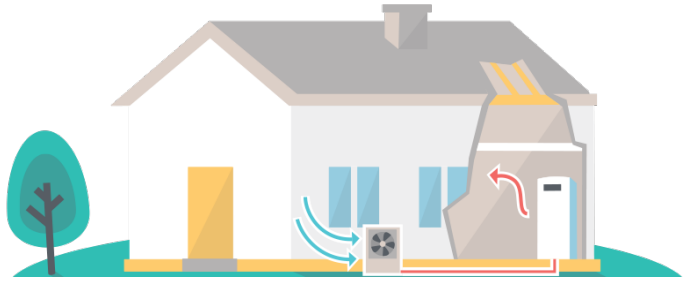
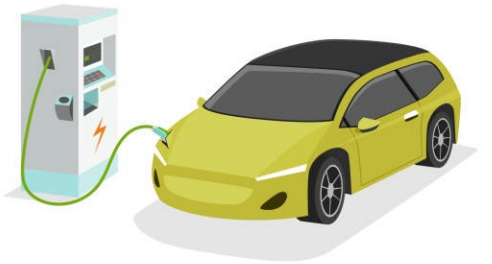
To meet our 2030 climate targets, Ireland needs to retrofit 500K homes & electrify 1/3 car fleet



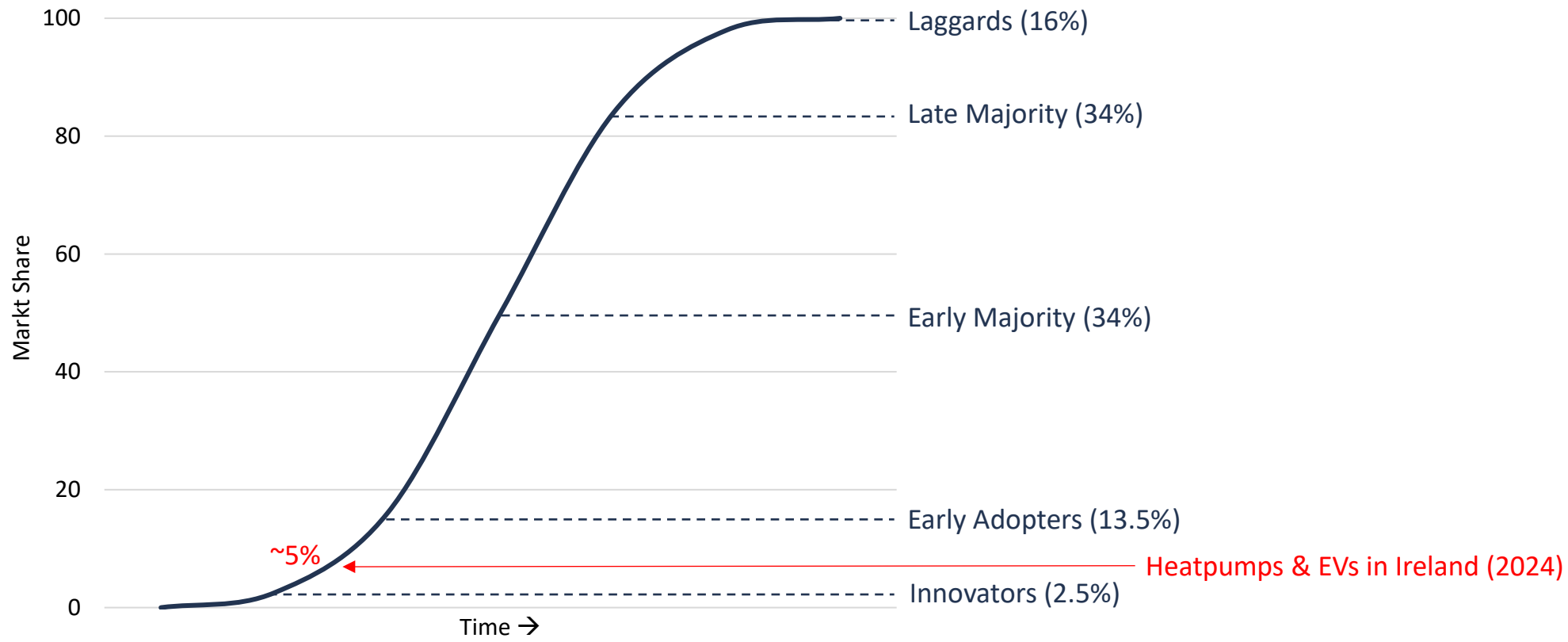


But progress has been too slow

	Current (2024)	Target (2030)	Total Population	2024/Total
Retrofits (to B2, pre-2011)	~64,000	500,000	1.65 million	3.8%
Heatpumps (retrofits & new houses)	~100,000	400,000	2.2 million	4.5%
Electric Cars (EVs & PHEVs)	~115,000	845,000	2.4 million	4.8%

4-5% uptake so far

To go beyond early adopters, we need to better understand mainstream adopters.

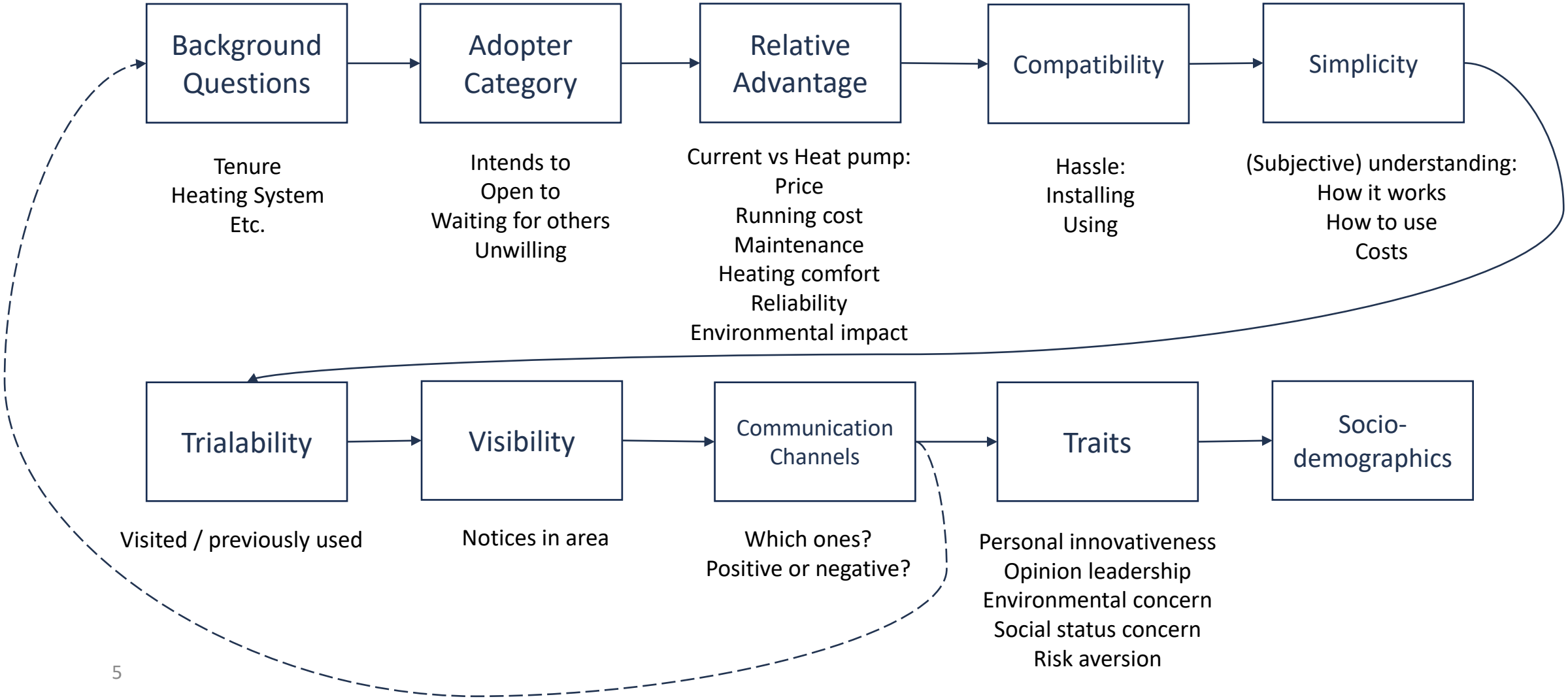


Source: (Diffusion of Innovations, Rogers, 2003)

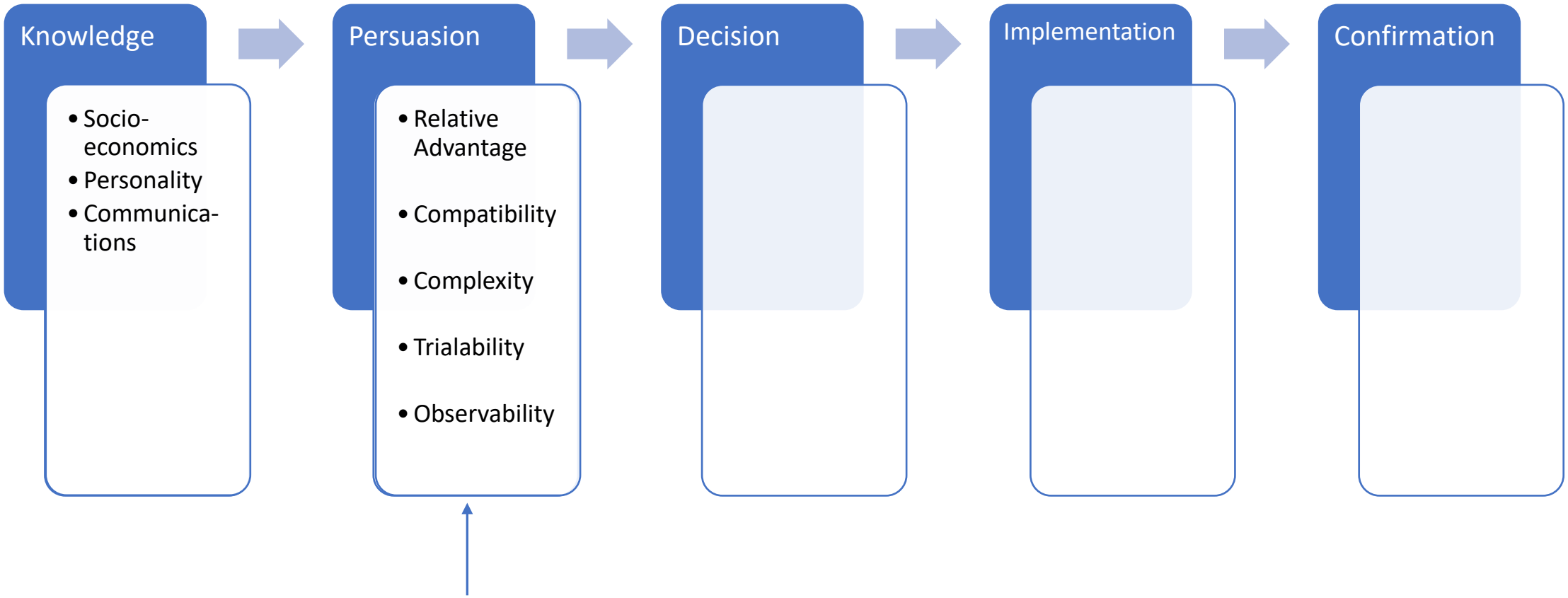
“Whenever I wanted to know what the Irish people wanted, I had only to examine my own heart and it told me straight off what the Irish people wanted”

-Éamon de Valera, 1922

Survey Methodology (n = 1000)



5-Stage Innovation Decision Process



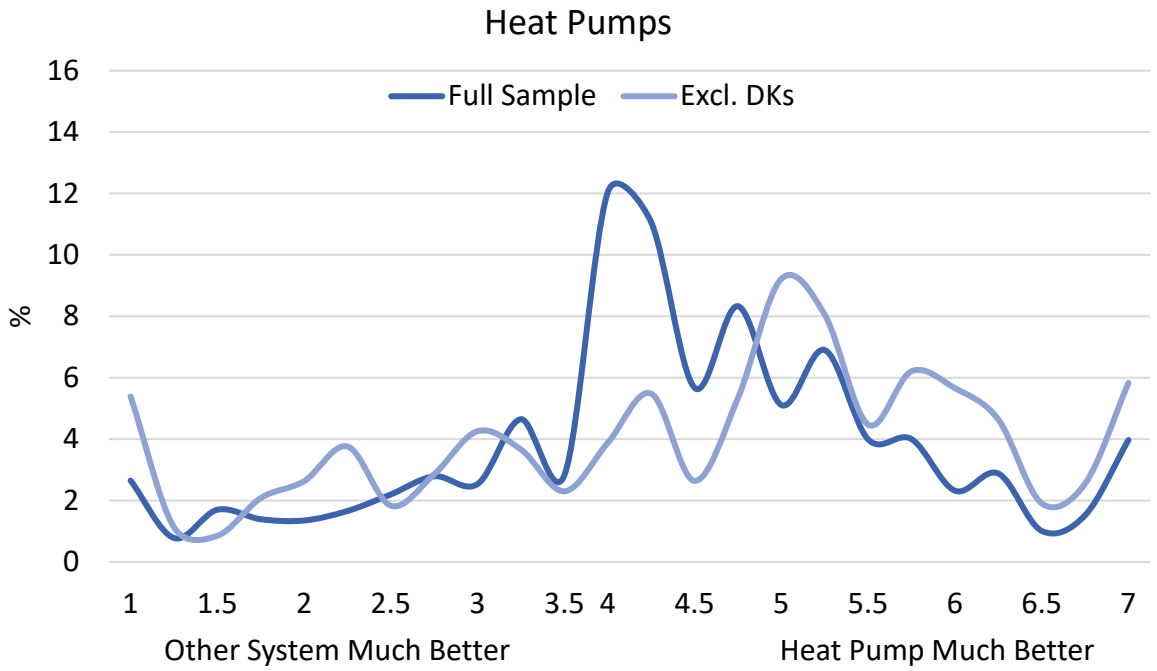
Attributes of Innovation

RESULTS: Attributes of Innovation

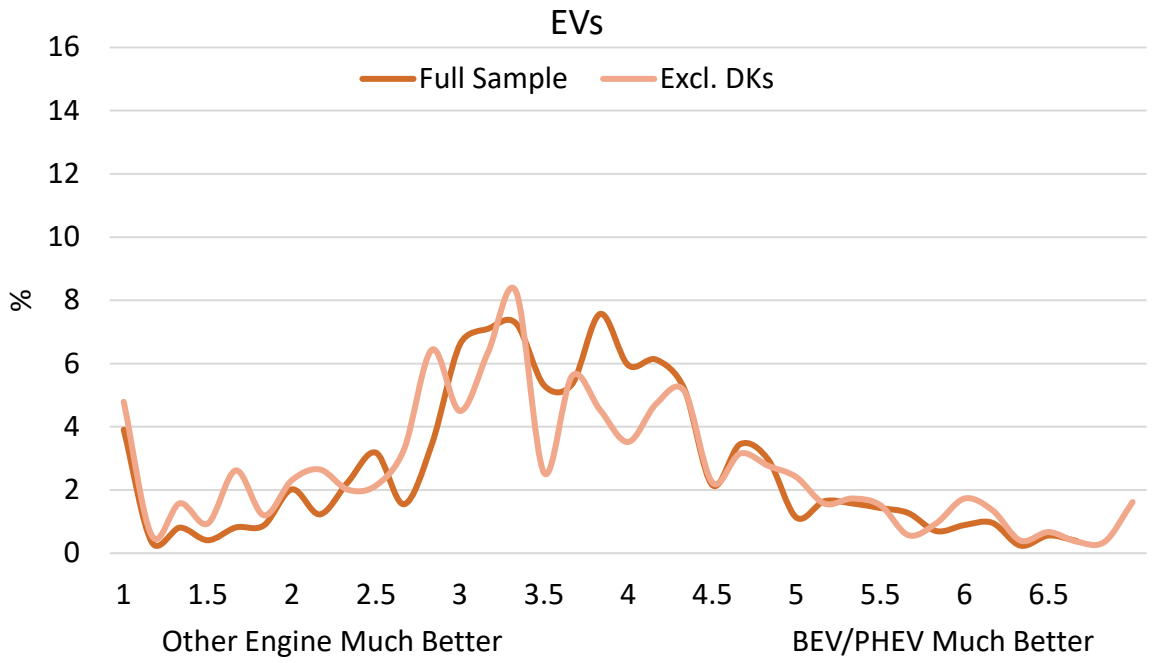
		Heat Pump	Electric Car
1	Relative Advantage	?	?
2	Compatibility	?	?
3	Complexity	?	?
4	Trialability	?	?
5	Observability	?	?

1.....2.....3.....4.....5.....6.....7

[HP/EV] Relatively Worse



[HP/EV] Relatively Better



→For both technologies, large majorities perceive them as “no better or worse”

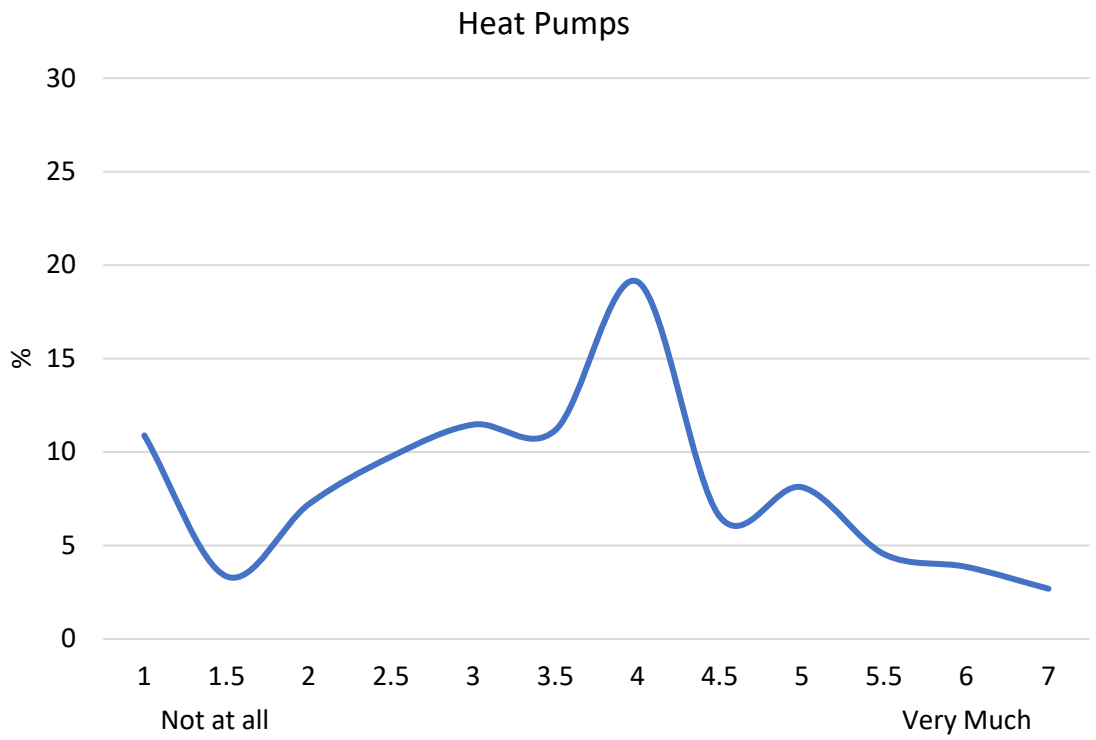
→For heat pumps, there is a very large ”Don’t Know” cohort

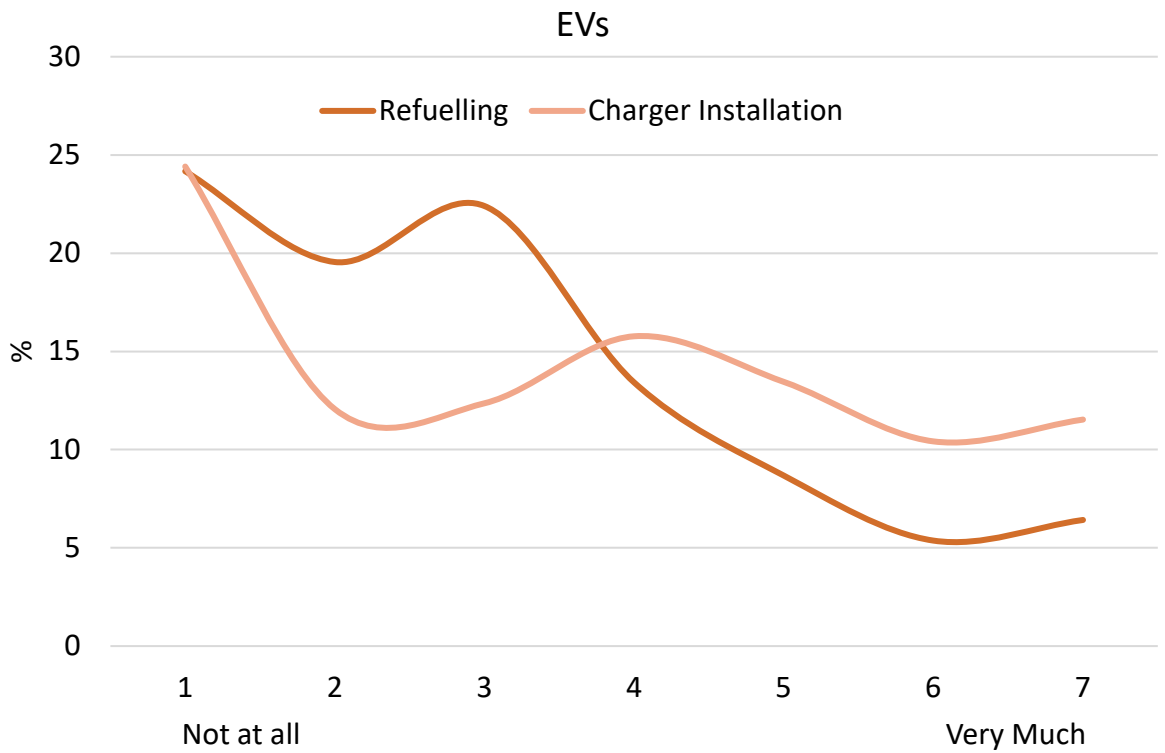
→ Evaluation of relative advantage is a complex process

1.....2.....3.....4.....5.....6.....7

[HP/EV] Incompatible

[HP/EV] Very Compatible





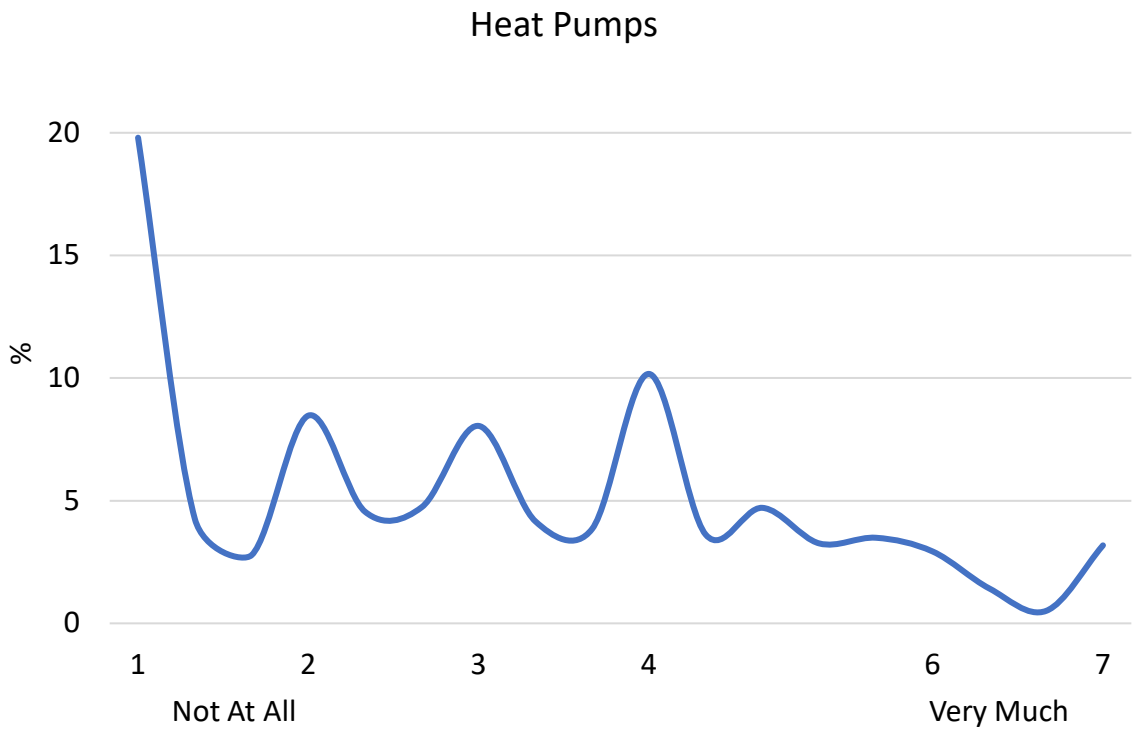
→ Heat pump compatibility perception is normally distributed, but high levels of uncertainty

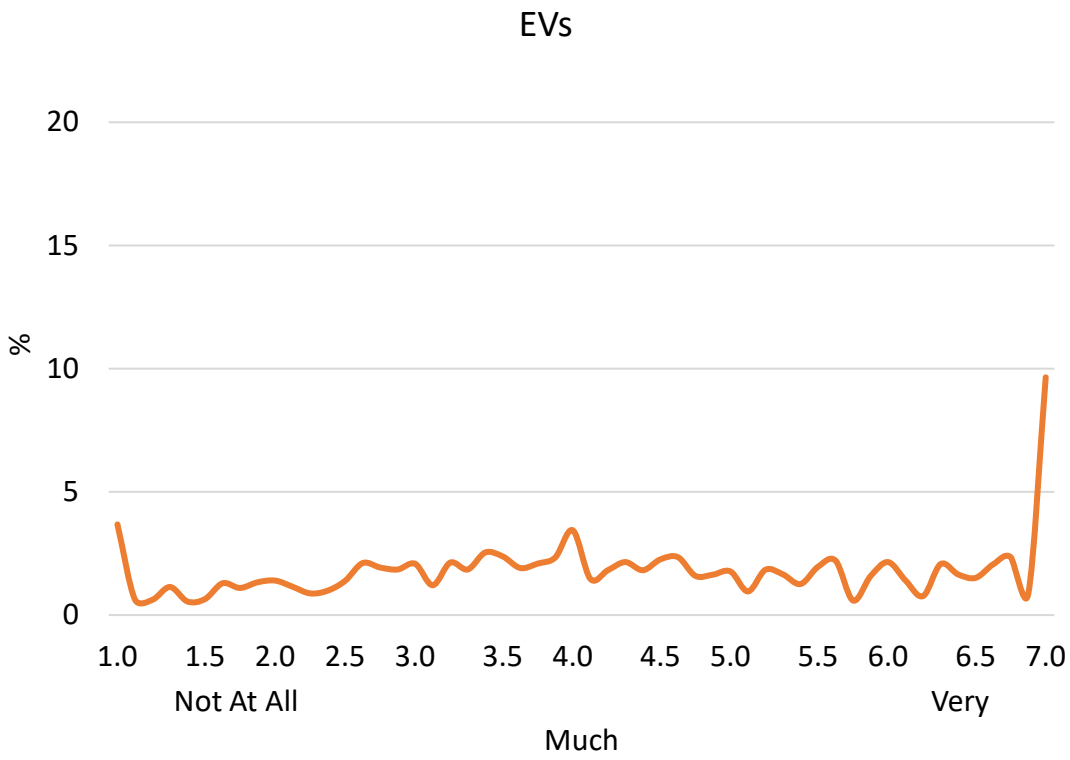
→ EV refuelling and charger installation perceived as particular hassle

1.....2.....3.....4.....5.....6.....7

[HP/EV] Complex

[HP/EV] Simple



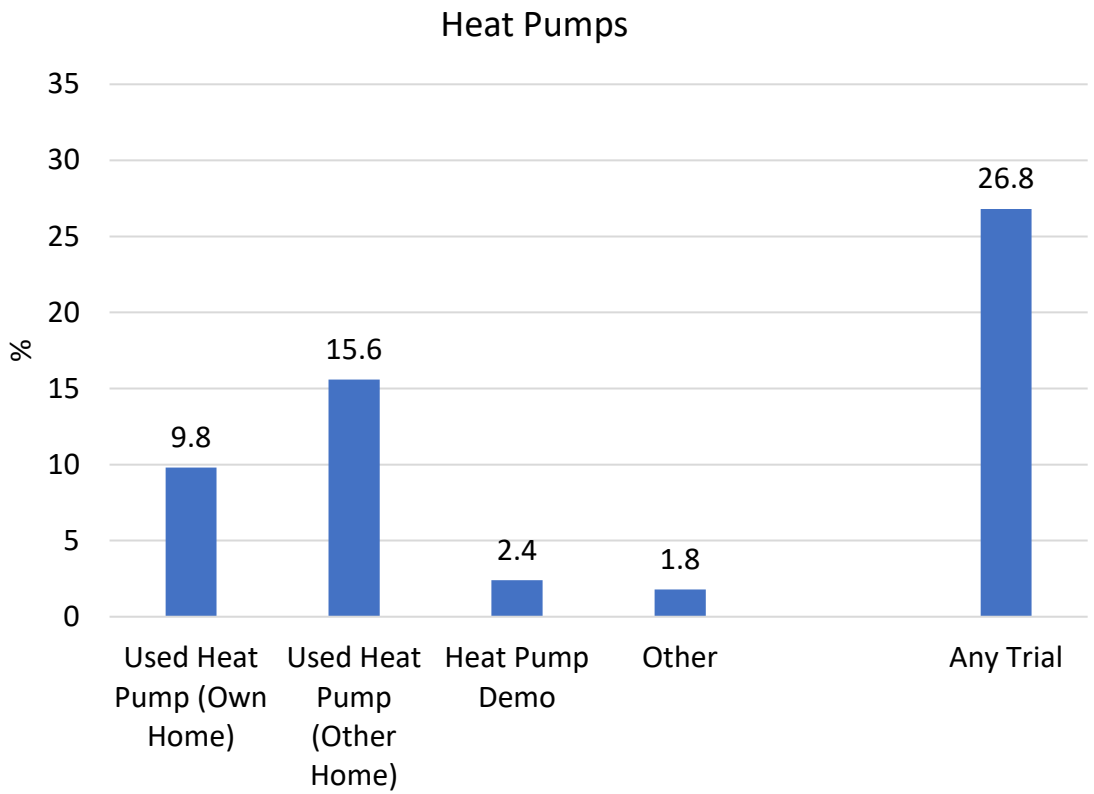


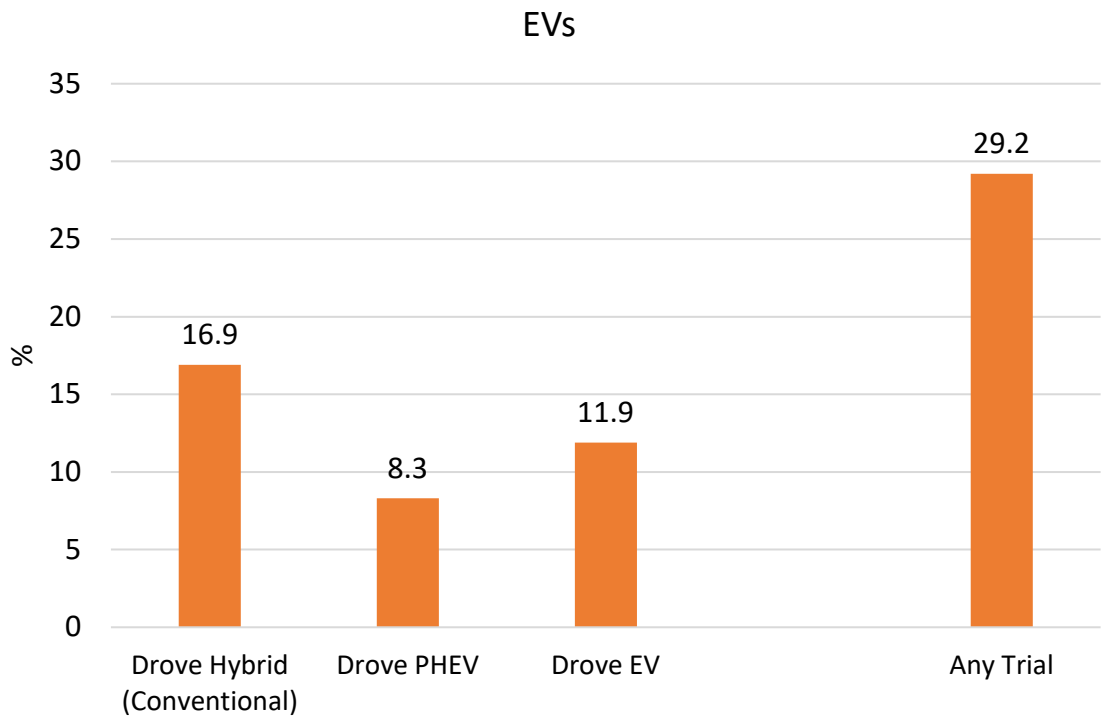
→ Understanding & conventional wisdom of HP is low. For EVs there is a wide range of understanding.

→ The more respondents say they understand Heat Pumps, the <u>more favourable</u> they are.

→ The more respondents say they understand EV, the <u>less favourable</u> they are.

Trialability: % of respondents trial experience





→ Similar "trials" of both technologies

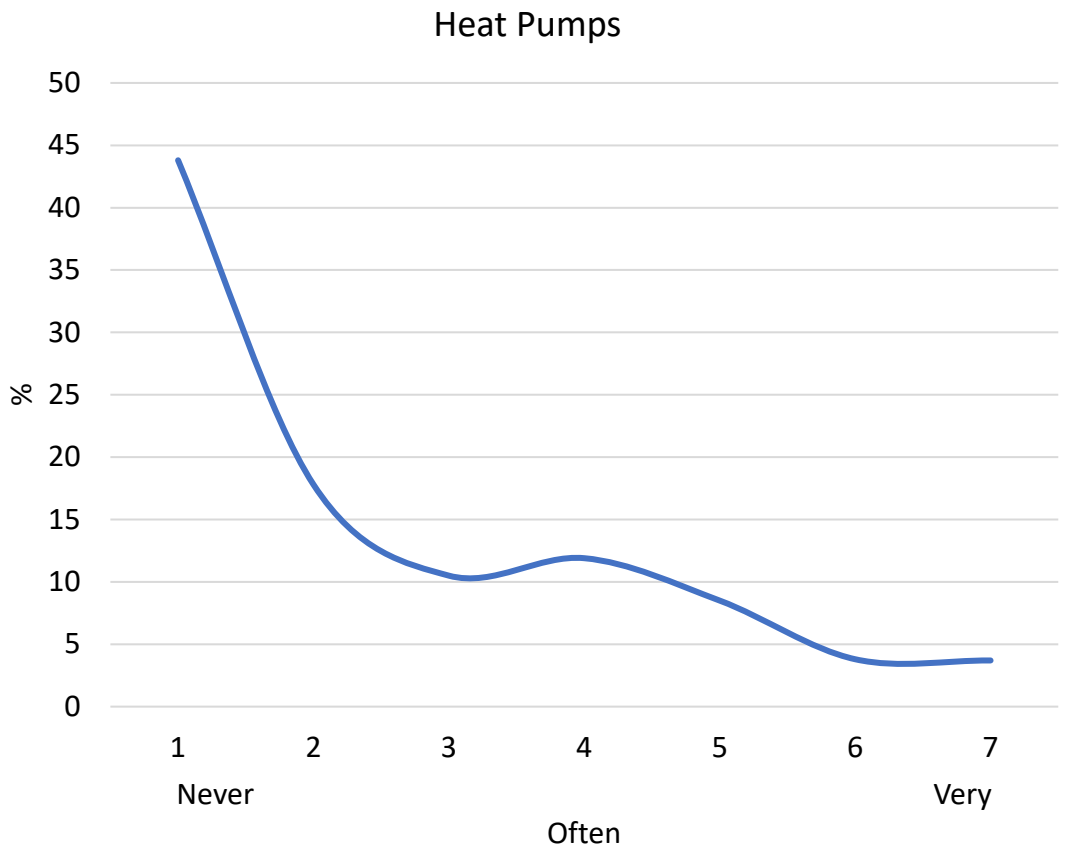
→ Uncertainty about robustness of heat pump responses

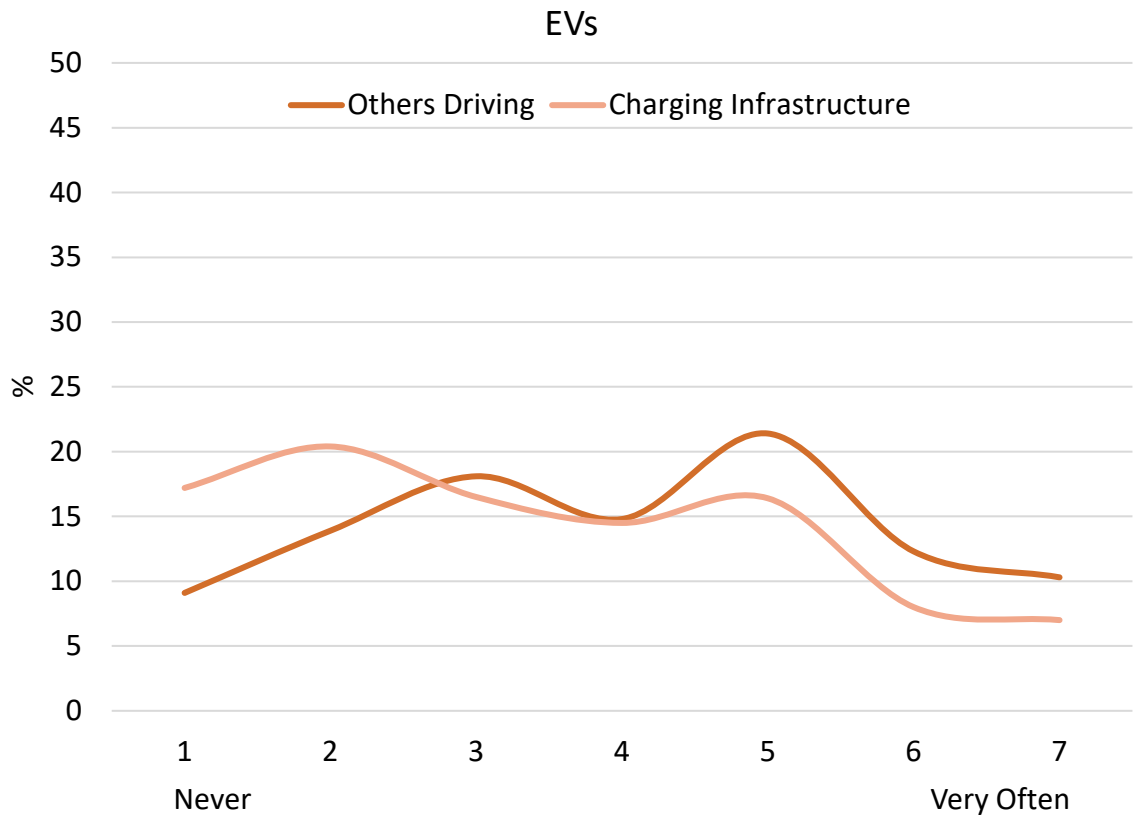
→ How much do trials & experiences contribute to knowledge? (open research question)

1.....2.....3.....4.....5.....6.....7

[HP/EV] Invisible

[HP/EV] Visible

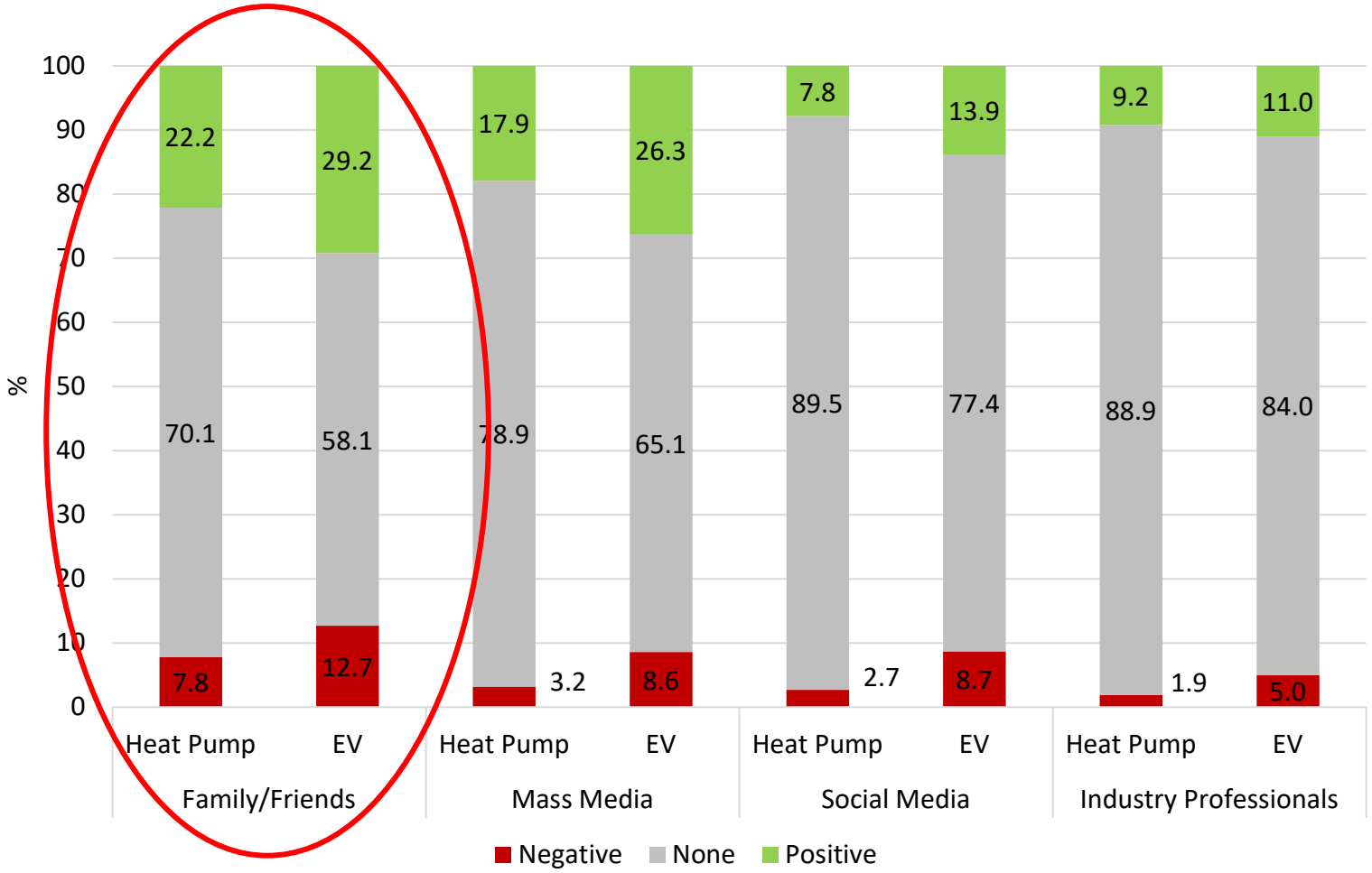




→ Heatpumps are invisible or rarely seen for 60% of people

→ EVs relatively more visible but ~40% still say they never see charging infrastructure

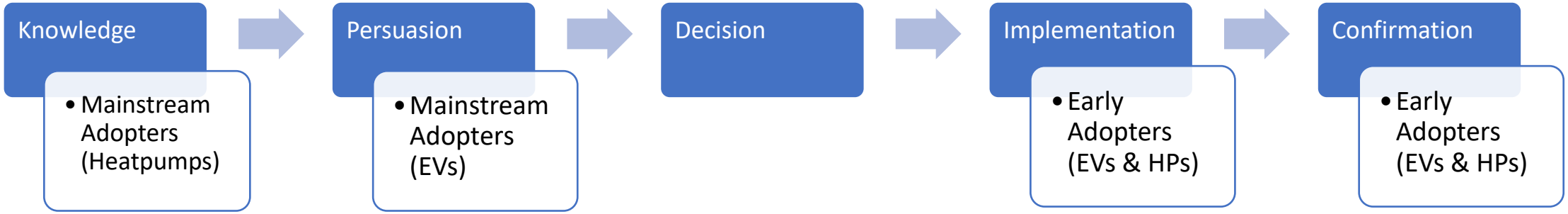
RESULTS: Communication Channels



→ Communications tend to be positive for both technologies.

→ But many not receiving any communications (50% HP & 33% EVs)

At what stage are early adopters and mainstream adopters?



Conclusions

- For a majority, heat-pumps & EVs are perceived as no better or worse.
- Heatpumps
  - Knowledge levels very low (Analysts: beware the curse of knowledge)
  - Low levels of understanding appear to be linked to lower levels of favorability
- EVs
  - Many perceive refueling & charging needs as incompatible with current practices
  - Visibility of EV charging infrastructure low. For large cohort (~40%) it is invisible
- Perception really matters (more important than socio-economics)
- Study hasn’t evaluated accuracy of perceptions

Recommendations and further research

- Targeted communications on:
  - Location of EV charging infrastructure and associated routines
  - How do heat pumps work (in context of home energy routines)
  - Relative disadvantage of *other* technologies
- Communication channels:
  - For mainstream adopters, communication via friends & family is very influential, but at a very low level in this study
  - Future communications should test combination of expert input & user testimonies
- Future research and next steps
  - Develop a Structural Equation Model
  - Test the accuracy of perceptions
  - Simulation modelling of diffusion aligned with innovation archetype uptake (e.g. early adopters only, early + mainstream adopters)

I-ADOPT

Title:	Innovation Archetypes for Diffusion of Policies and Technologies (I-ADOPT)
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Research Partners:	University College Cork & ESRI
Principal Investigators:	Fionn Rogan (UCC); John Curtis (ESRI); Shane Timmons (ESRI)
Research Area:	Energy Policy & Modelling

Energy Policy and Modelling | The Energy Transition

https://www.marei.ie/project/i-adopt/

Please get in touch with any queries: f.rogan@ucc.ie or shane.timmons@esri.ie