

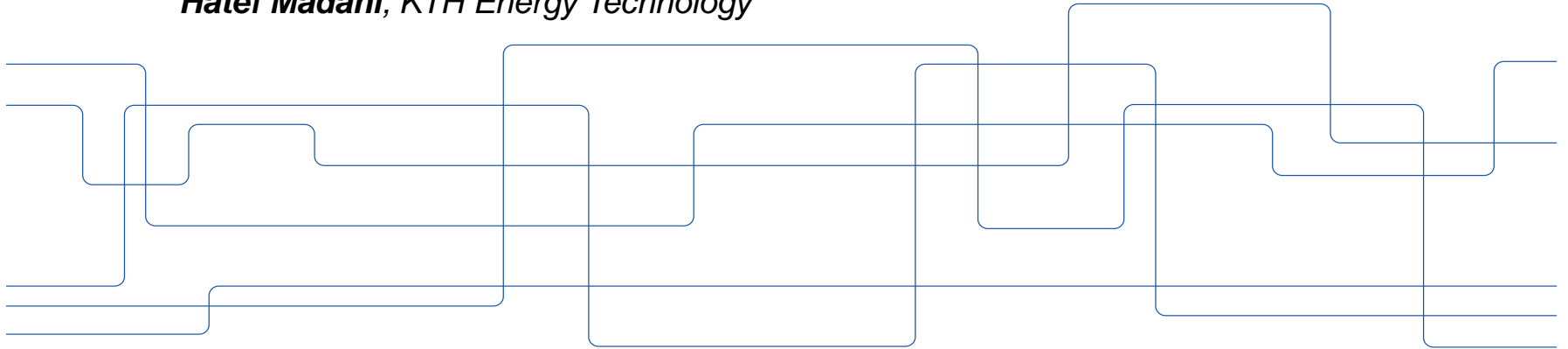


User-Centered Design Approach to Identify Biases in Household Solar PV Adoption

Nelson Sommerfeldt, KTH Energy Technology

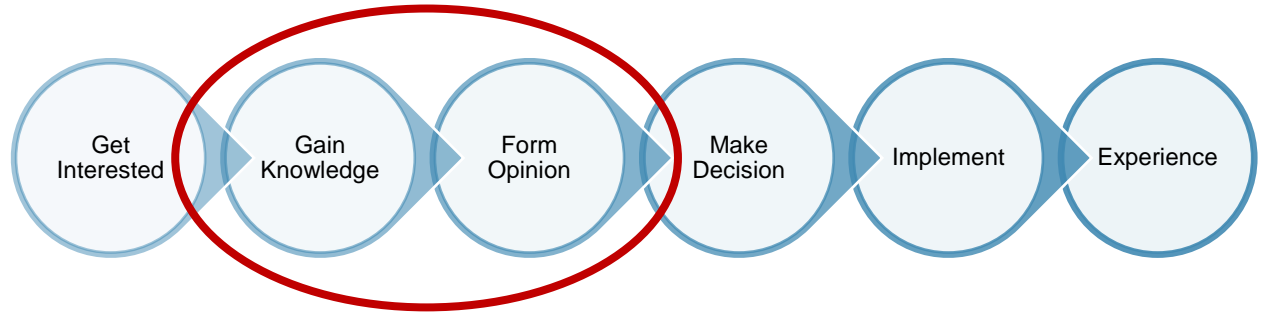
Ida Lemoine, Beteendelabbet

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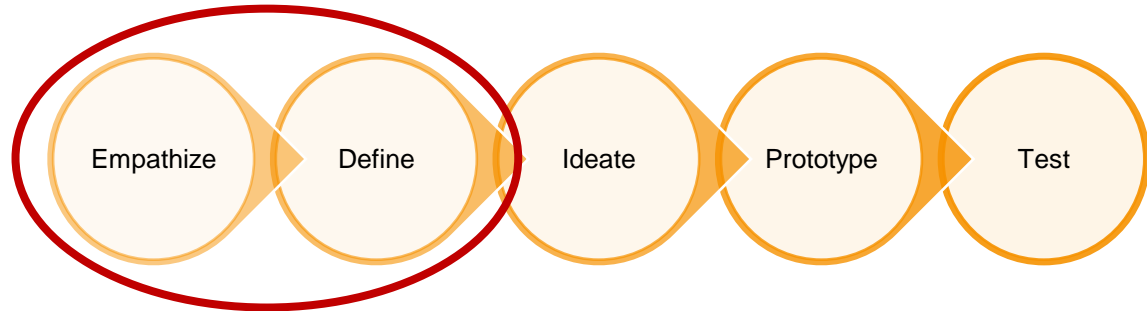


User-Centric Design Approach

Diffusion of Innovation
model of tech adoption



User-centric design
approach





Objective and Methodology

Identify relevant behavioral aspects within solar PV investment for product development and randomized field trials

- *Identify the customer's needs, barriers, motives, misconceptions*
- *Define promising information delivery methods*
- *Map PV market stakeholders*

Three modes of investigation

- *28 semi-structure interviews with property owners*
- *Review of existing information channels in the market*
- *Compared/contrasted with relevant literature*

Interview Results

Triggers

Climate Change
Community engagement
Renovation

Motivations

Leadership
Economy
Simplicity

Barriers

Waiting for new tech
Uncertainty
Poor economics

Activities

Online searches
Visit others with PV
Compare offers

Contact Points

Community
Governments
Third Parties
PV Sellers



Online Information Sources

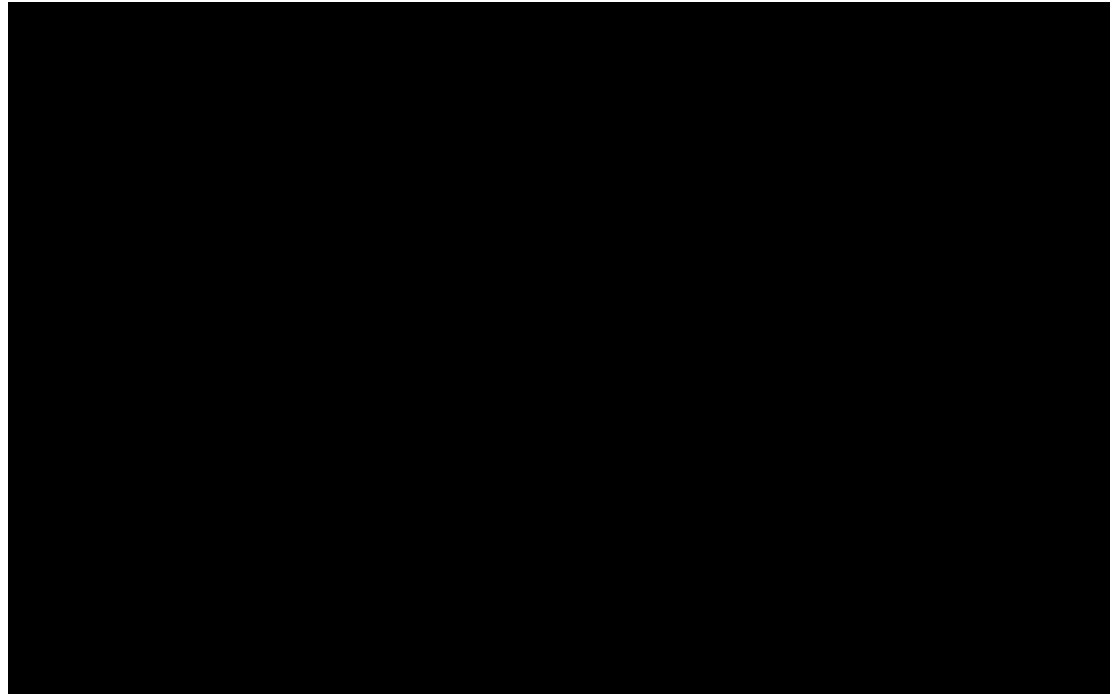
Professor's personal blog

Market specific reports

Swedish Energy Agency

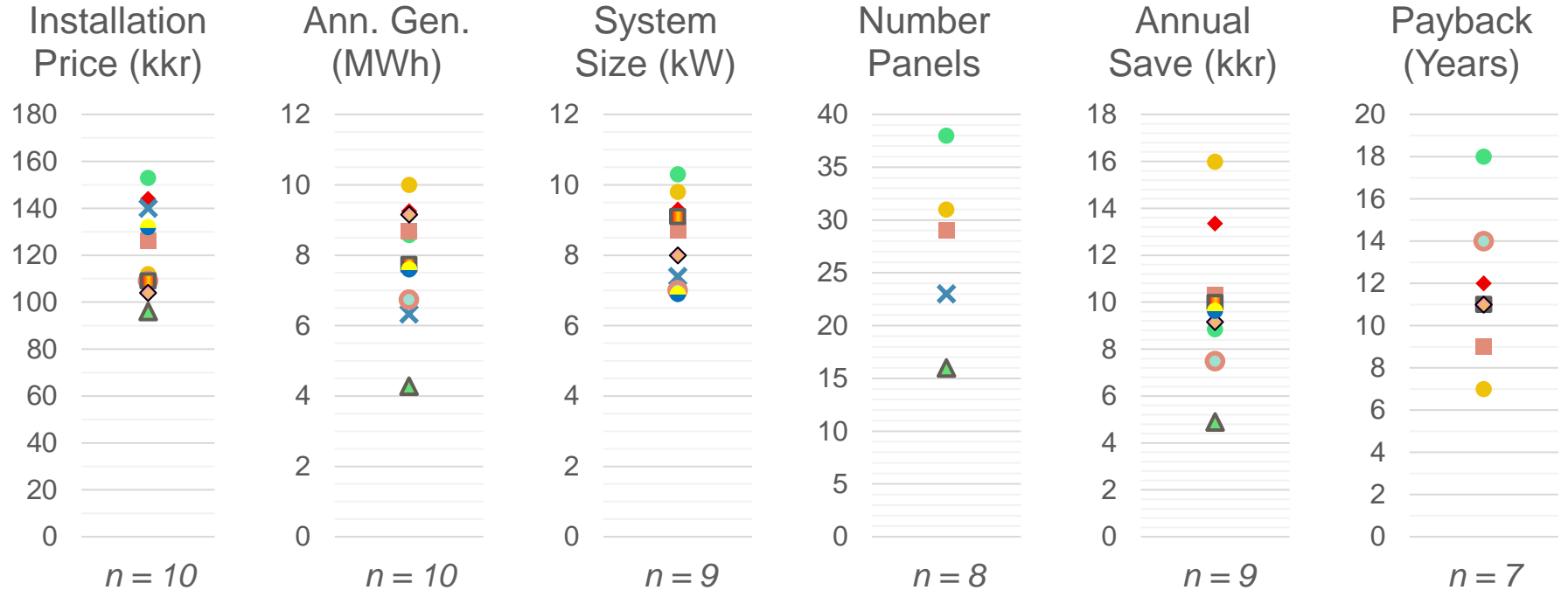
Online Solar Calculators

- *Semi-personalized*
- *Multiple forms of info*
- *Several sources, purposes, and designs*



Example from HemSol.se

Results for one villa...clear?



Mapping stakeholder information channels

Consumers

- Difficult to demo
- Time consuming
- Trust is key

PV Sellers

- Branding is key
- Web marketing
- Lure now,
inform later

Gov/NGO

- Good faith actors
- High trust (SWE)
- Limited utility



Conclusions and Design Insights

Information sources for Swedish consumers are becoming easier to access, but not necessarily more valuable/useful

Design factors for improved information delivery

- *Simulate personalized testing*
- *Details about PV system function*
- *Reducing uncertainty (novel analysis)*

Experimental points for behavioral intervention

- *Time dependence and mental accounting*
- *Gain vs. Loss framing*



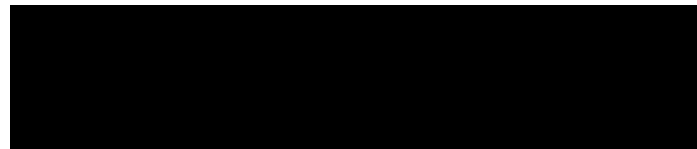
Work in Progress

Machine learning models for PV self-consumption

Commercial websites under development

- *Utilizing design insights*
- *Experimental platforms*

Behavioral treatments tested during summer 2021



Trygghet

Hur vet jag att analysen och beräkningarna stämmer?

Analysens sannolikhet

97 av 100

Enligt KTHs beräkningar så kommer din solcellsanläggning att vara lönsam i 97 fall av 100. För att veta mer om våra beräkningar klicka på läs mer.

LÄS MER HÄR





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