Social influence and the adoption of low carbon digital innovations

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Life is digitalising

Digital *consumer* innovations can potentially help reduce emissions in (at least) five ways.

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(2) Increase **utilisation** & reduce waste.
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1. Shift from owning to *accessing*.
2. Increase *utilisation* & reduce waste.
3. Substitute for physical *movement*.
4. Improve *control* & management. (+ electrification of end-use)
5. Improve *system performance*.
How do new things spread?
The **diffusion of digital low-carbon innovations**

**Diffusion** = Communication over time about an innovation among members of a social system.
We used Rogers’ *Diffusion of Innovations* as our analytical framework.

- **Adopter Characteristics**
- **Innovation Attributes**
- **Social Networks**
- **Social Influence (Information flows)**
Types of Social Influence

- **Word-of-mouth (WOM)**
  - e.g. conversations

- **Electronic word-of-mouth (eWOM)**
  - e.g. online social media

- **Social norms**
  - e.g. awareness of what others think is acceptable

- **Neighbourhood effects**
  - e.g. observing what others do

A adoption decision process
- Non-adopter
- Adopter
Social influence in the adoption of low carbon digital consumer innovations

adopters
n=\sim 100 \text{ per innovation}

non-adopters
n=\sim 100 \text{ per innovation}
Commonalities across all innovations

VS.

High propensity non-adopters

Low propensity non-adopters

WOM (word of mouth)
e-WOM
social norms
neighbourhood effects
Commonalities across all innovations

**WOM (word of mouth)** + **

**e-WOM** + **

**social norms** + **

**neighbourhood effects** + **

** p<.01
* p<.05
Differences across groups of innovations

Cluster 1
- 11th hour apps
- meal kits

Cluster 2
- EVs
- Elec. generation with storage

Cluster 3
- smart heating
- smart lighting

eWOM important for all

Roubix photo source: geekologie.co.uk
Differences across groups of innovations

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WOM and social norms important

Roubix photo source: geekologie.co.uk
**Context characteristics** and social influence mechanisms

**Trust in users**
- Peer-to-peer ride-sharing
  - sharing personal space within a vehicle for a journey

**Low salience**
- Smart home technologies
  - use within home, out of sight

**Community-based**
- Digital food hubs
  - local community network of food producers and consumers
To aid diffusion of *digital* consumer innovations which can help reduce CO$_2$ emissions

... social influence is important
To aid diffusion of *digital* consumer innovations which can help reduce CO$_2$ emissions

... social influence is important

eWOM is most important
To aid diffusion of digital consumer innovations which can help reduce CO$_2$ emissions

... social influence is important

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harness innovation visibility
To aid diffusion of digital consumer innovations which can help reduce CO$_2$ emissions

Trust in users

Low salience

Community-based

... social influence is important

eWOM is most important

harness innovation visibility

tailor strategies to overcome barriers
Thank you

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