

Conceptualization of a new technology: exploring the terrace heater

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General background

- Part of the Norwegian Research Council (and RENERGI program) project “A secret success” on energy consumption in Norwegian households
- Research period 2010-2012.
- Project manager: Eivind Stø (SIFO).
- Collaborators: ENOVA and NVE, directorates under the Ministry of Petroleum and Energy.



Introduction: why study terrace heaters?

- A case study of a new and energy intensive technology related to modern life styles; the terrace heater is increasingly employed in both restaurant/bars and households
- Research question: why do consumers buy a luxurious technology?
 1. Outdoor heating for comfortable living?
 2. To what extent is the application of this technology an unintended consequence of changed norms and the new Tobacco Smoking Act in Norway?
 3. How do terrace heaters contribute to total energy consumption in households?



Theoretical background

- STS and ANT traditions: to tell interesting stories about technology
- Emphasis on the product: how does it change our society, and how does society shape technology?
- The consumers idea of comfort: a potential driver for increased energy use
- Energy focus: the aggregated effect of a large number of perceivably insignificant acts



Methodological approach

- Representative national consumer survey (N=1028)
- Focus groups with consumers from different households (apartments, detached houses, semi-detached houses)
- Content analysis of advertisements on terrace heaters



The technology

- 3 main types of terrace heaters:
 - Gas heaters
 - Electrical heaters
 - Infrared heaters (electrical)
- Market trends:
 - A luxury product with increasing popularity
 - Easily accessible in electronics stores at a low price



Some scripts

- **Prolong the summer heat!**

Make your own Indian summer: with a terrace heater you might still enjoy long evenings in your garden or on your balcony, even when the summer heat leaves the country.

- **Prolong summer!**

Do you think that summer is too short? Well, you`re not alone. The bright season is soon about to leave us, but you can make the outdoor season last a little bit longer by using a terrace heater!



Norms and the Tobacco Smoking Act

- A new and more restrictive Tobacco Smoking Act in Norway in 2003 outlawed smoking in premises where food and/or beverages are served
 - Heated public debate prior to the enactment, but it faded after a short while
 - A more considerate smoking behaviour also existed prior to the Act; research shows that smoking behaviour is changing (Nyborg and Rege 2003)
- Nowadays people almost always smoke outdoors due to the change in social norms and the new Tobacco Smoking Act; as a result the terrace heater has penetrated the market



Consumers in public spaces

- Norwegian health data shows that 21 % of the population are daily smokers, and 10 % are “now and then” smokers
- The new smoking regulations have transformed terrace heaters from an exotic and luxurious gadget into a necessary feature of restaurants (and bars).
- The terrace heaters makes outdoor smoking more *comfortable*



Consumers at home

- Web survey results:
 - 12 % owns a terrace heater
 - 4 % use it often, 19 % now and then, 67 % rarely
- Focus group results:
 - 3 out of 20 owned a terrace heater (several of the participants wanted to buy one)
 - Never used for outdoor smoking, but to prolong summer



Concluding remarks: new norms and a problem solving technology?

- The link between smoking regulations and purchase of terrace heaters is only valid for restaurants/bars
- If there was such a link in the mind of the consumer at the point of purchase, it do not seem to influence his actual behavior (smokers a home just put on a coat)
- At the present levels of ownership (12 %) and use (4 % often and 19 % now and then), terrace heaters in Norway only contribute insignificantly to households' energy use
- But consumers are constantly being offered new, energy consuming products. These might add up to something that undermines what we have gained from energy efficiency. In addition, ownership and use of terrace heaters may change in the future.



Thank you for your attention!

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