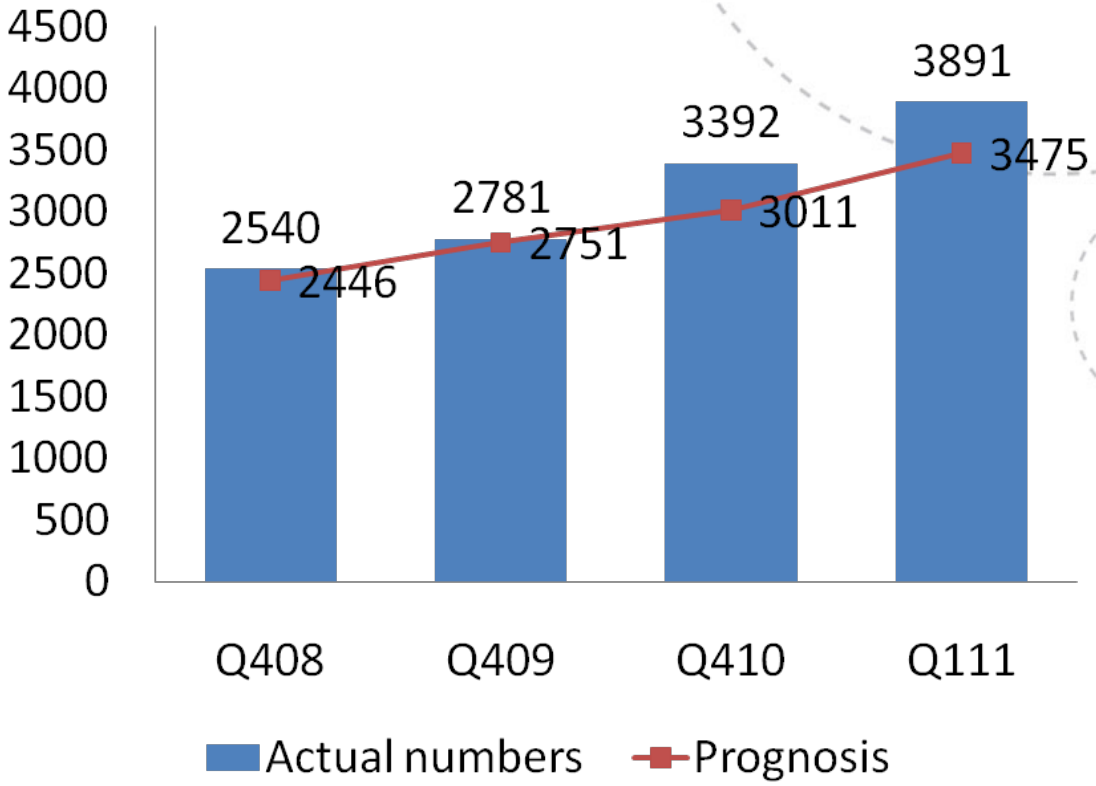
NTNU – Trondheim
Norwegian University of
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Imagining the public: Negotiating user needs and aspects of usability and utility among EV users and stakeholders

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The EV in Norway

- 3891 EVs
- 1,4 percent of all cars sold are EVs
- The i-MiEV is the most popular compact car
- 2666 charging stations
- Goal: 200 000 chargeable vehicles by 2020



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Measures: different perspectives

Sosiological: Consumer demand for cars with new technology

- who are the customers?
- which technology?
- why?



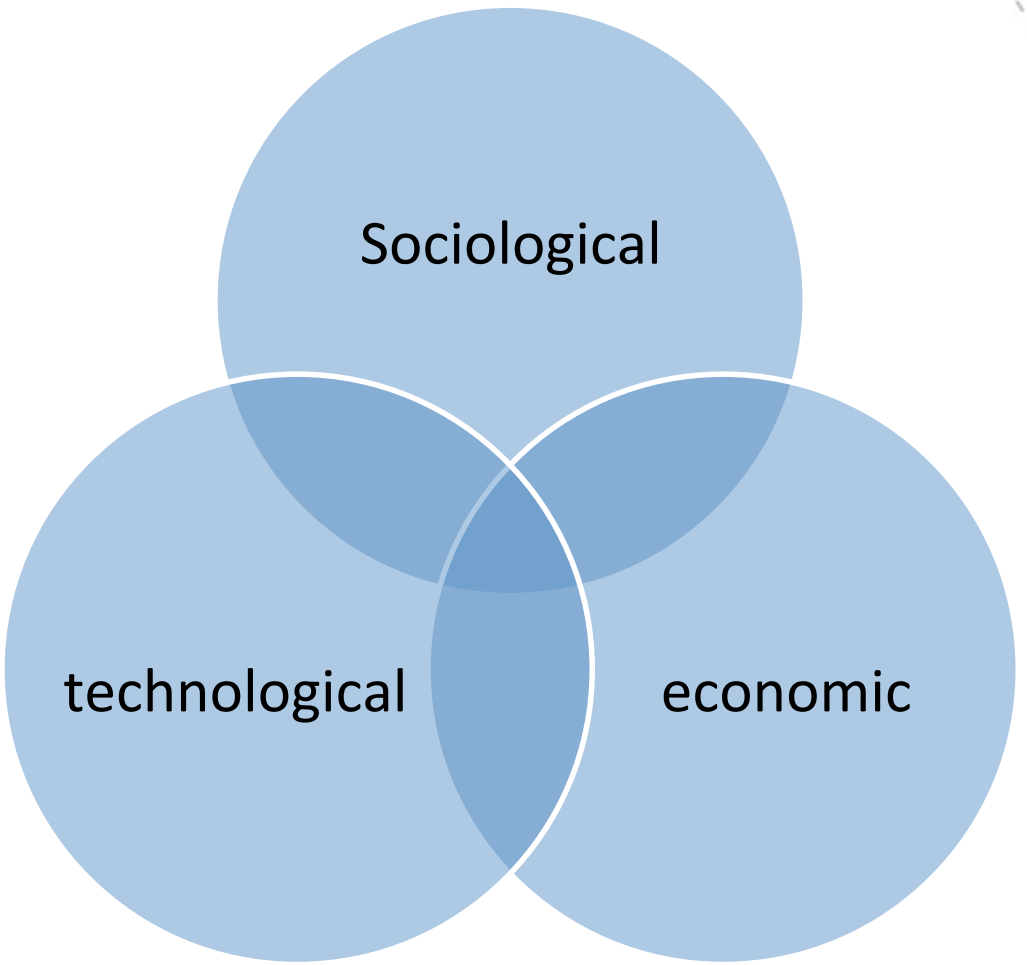
Technological:

- Construction of infrastructure
- Battery capacity
- Charging facilities

Economic:

- whip = tax on fuels
- carrot = free parking etc.

Between policy and users



Two approaches

- The imagined public
  - Experts acquire first hand and mediated knowledge about users
  - Development of shared repertoires and expectations
  - The construction of an 'imagined EV user'
- The domestication of technology
  - How technology becomes a part of everyday life
  - Understanding user needs and wants
  - The dynamics of use and variations in use. E.g. How use changes over time
  - The appropriation of knowledge and user behavior is throughly affected by local perspectives and sense making

Objective

- Investigate the relationship between 'the imagined user' and the domestication processes of (EV) technology (the domesticated user)

  - How do stakeholders imagine and anticipate the user?
  - Do stakeholders' views of the 'EV user' manifest itself in the existing policy?
  - EV utilitarian value: precondition for the development of usability?
  - Dual perspective: 'imagined users' and the 'domestication of technology?

Datamaterial

- Project is part of two larger research projects on EVs
- Interviews with 31 stakeholders and users
- Interviews were loosely structured and thematically organized

Role Category	Number of interviewees
Energy suppliers	4
Car manufacturers and distributors	3
Private enterprise	2
GO's and NGO's and interest organizations	12
Local and national authorities	4
Users	6
TOTAL	31

The imagined user- stakeholder views

- Stimulating EV use
  - Economic factors; purchase price and second hand value
  - Technological factors; safety and range (i.e. charging time & battery capacity)

- The 'imagined EV user' is
  - a rational user;
  - concerned with safety, price and range,
  - largely motivated by incentives.
  - will choose to buy and use an EV when the EV is more like a conventional car and/or advantages become apparent

"(….) Norwegians need to own a car. First of all they need to own it themselves, and they need to be able to cover all their transportation needs with that car. This means that everybody needs to have an SUV or a station wagon in order to bring the entire family to the cabin (…)"

(EV entrepreneur)

” Some people don’t care at all if the car they drive is safe, as long as they get all the advantages (…) most people, though, want a safe car.”

(EV distributor)

Domesticating the EV

- For the EV user
  - Economic and regulatory incentives matter
  - Price, safety and range/charging are central concepts and may motivate or discourage purchase and/or use
- Users ‘domesticate’ and integrate the EV and EV related technology into everyday life
  - Users develop and reflect upon their social practices
  - Safety, price and range = open for interpretation as a part of a larger context of user practices.

” …if I should travel and visit friends or people I know and such, I wouldn’t be comfortable asking to “plug in” where I’m visiting. That would be out of the question!”

(User, energy supplier employee)

" I see a couple of other companies that have had an old model my EV for a long time, several years, and they've bought the new model. That tells me they're pretty satisfied with the car."

"Well, I have to say it's concern for the environment. It's a little bit because of maintenance too. I'm not so good with cars, and I knew that I was probably, financially speaking, unable to purchase a new car and buying a used car entails a certain amount of risk."

(Users, private enterprise)

Conclusions

- Homogenous user imaginaries: Stakeholder hold shared repertoires and expectations of what an EV user is
- Users are key players whose choices are largely conditioned by and described in terms of technological and economic factors
- EV usability and usefulness exists as an integrated part of everyday life
  - The 'domestication' of the EV should be seen as a part of the construction of meaning through practices
  - The appropriation of knowledge and the EV users' domestication of the EV is thoroughly affected by local perspectives and local sense-making
- Defining enablers and barriers for use in terms of safety, range, price = unilateral view of the EV user as motivated by the utilitarian aspects of the EV.
- Excludes the importance of 'rejected' technology as an expression of self and
  - Reduces rejection to lack of knowledge
  - Rejection is based on the very same barriers and enablers which "promote" use.

What next?

- Investigate the role of stakeholders as potential mediators
  - Which position do the different stakeholders have in shaping and implementing policy?
  - How can cooperation and communication be promoted?
  - Do some stakeholders have a greater potential to function as mediators or translators between the different actors involved?
  - How do they reflect upon their role as mediators?

References

illustrations and statistics from:

http://www.gronnbil.no/elbilkartet

http://www.elbil.no/praktisk