

Switch EV trials and EV user experiences

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Switch EV

- Currently Newcastle University is participating in the Switch-EV trial, which is demonstrating the large scale use of a series of electric vehicles within the north east
- To achieve this a series of vehicles have been installed with data loggers which will track their movements and battery management systems

Switch EV Statistics

- Average journey length: 9 km
- Longest journey: 136 km
- Average journey duration: 15 min
- Total journey distance: 322,452 km
- Total number of journeys: 37,910
- Total number of charges: 14,863
- Total energy transferred: 48 MWh

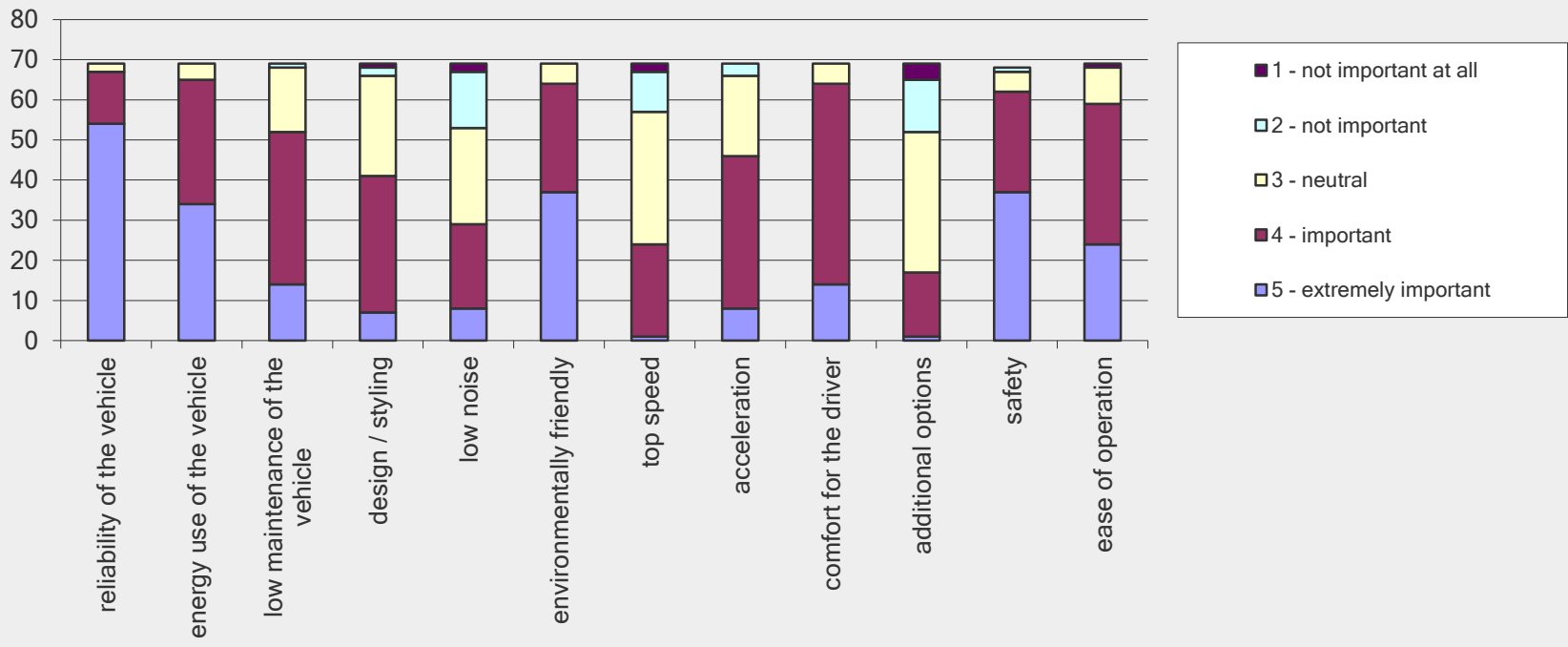
Soft data analysis

- In addition to the hard data a large volume of soft data has also been collected:
 - 71 responses to the pre-trial questionnaire
 - 69 responses to the post-trial questionnaire
 - 5 post-trial focus groups with 28 participants
 - 3 individual exit interviews

Expectations of EVs

Pre-trial questionnaire

On a scale of 1-5, where 1 is not important at all and 5 is extremely important, please indicate your expectations of the performance of the electric vehicle.



Perception of EV before the trial

Responses from focus groups

Slow and you'll see them dawdling along when you're desperate to get past them if you're in your normal car.

Golf carts. Probably the archetypal milk float/all the way through to the and every now and again the Tesla or something. If you're on the telly you go that will be good one day and that was the basic perception.

"Excited to get EV, really good to use. [We] needed to embrace the technology and encourage buy-in from the other staff. Outside of work, viewed EVs as something that was too expensive and would not ever be able to afford one."

Probably G-Wiz I'll never get in it and is it that environmentally friendly? How are batteries produced?

Probably impractical sums it up.

Small! All electric vehicles were small. They're almost like Dinky toys. Thinking of the G-Wiz.

"Personally didn't want to drive it, didn't want to have anything to do with it, especially as it was automatic drive. That was my first impression when I heard we were getting an EV, no, didn't want to use it."

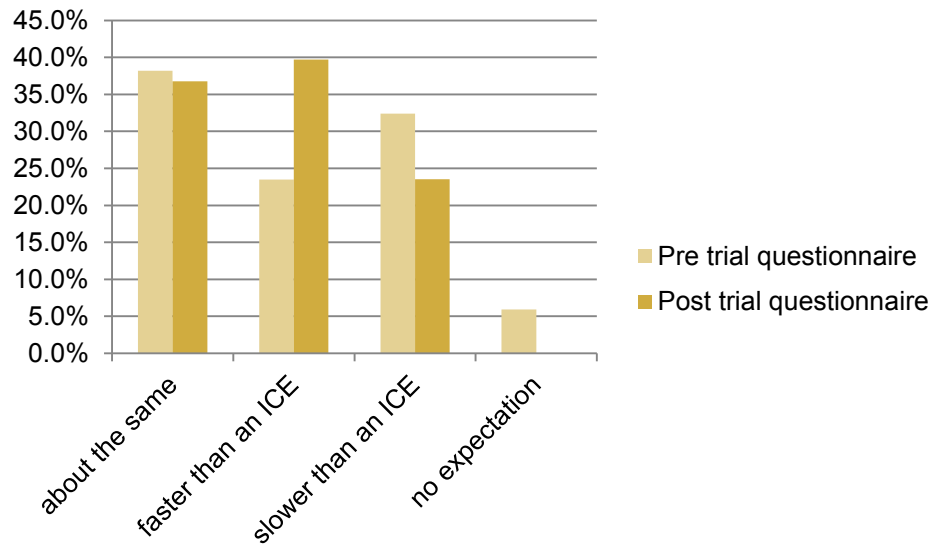
Interested in the technology because of my background, but wasn't convinced it would work in the rural environment. Proved unfounded provided you take care before you set off and plan your route and what you're going to do, it's worked out quite well.

I think an interesting concept. Environmentally great. It will be alright one day.

A lot of breakdowns and some people are like with their mobile phones and they let them go right down to the dying and you can't get in contact with them and it's same with the battery range on the electric vehicles as well. You've got to be careful in case – in future maybes 5, 10 years down the line then you will see a lot more electric cars breaking down on the road and of course they can't be towed away that easily so.

Had an open mind about it, to be honest my one reservation was the range and if it could cope with journeys in our area. Could see the relevance around a town and having driven the EV, I still them as more relevant and suitable for an urban environment... but I was quite pleasantly surprised by them.

How do you expect the acceleration of the electric vehicle will be compared to the ICE equivalent?

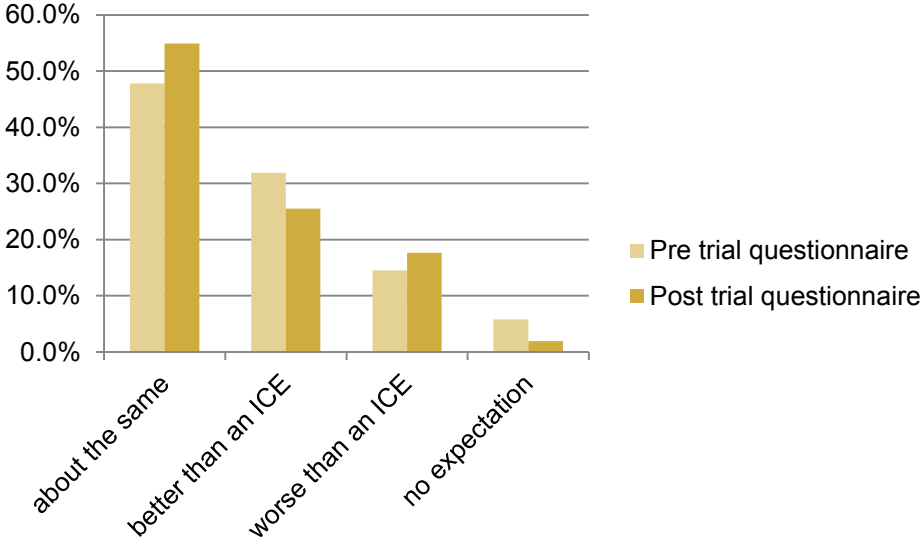


It does overtake very nicely actually, on a long straight section between here and Bellingham it would out-accelerate other cars, which is reassuring!

Probably the thing that I was personally surprised about was the actual speed and acceleration of electric vehicles. I thought that would be a real issue in terms of performance against standard internal combustion engine.

Like I was saying before I thought the *performance wouldn't be quite so good but I've been really impressed. The acceleration especially was just – I couldn't believe what it was like whenever I first got into the car, comfort and everything else really just totally changed my perceptions and if I was going to buy a car and just had the journey pattern that I have now an EV would be perfect really.*

How do you expect the over all experience of driving the electric vehicle will be compared to the ICE?



Question: what did you like best about driving and the electric vehicles?

Participant 1: The acceleration [laughing]. The actual – which is quite strange I suppose – the actual performance of the car yeah.

Participant 1 – I found it was better than any car I've ever driven before, that's what I thought.
Participant 2 – That's a big statement but it is. It is.
Participant 1 – But I have to make a comparison. The car I normally drive is an X-type Jag

Perception of EVs after the trial

Responses from focus groups

Cheap to run

Well it's as able, as
able as anything else.
Cheap parking

So it's a completely different way of driving, and what I'm learning is that you take those skills learnt in the EV and if apply them to your conventional ICE vehicle, you start to see an improved fuel efficiency there. So it's itself becoming a training tool for improving fuel efficiency, in terms of the choice of route, but also the style of driving.

When I was first using it and just driving around, it gave a feeling of superiority over other car users, it certainly raised a lot of smugness, other people were looking and it does attract attention... when I plugged it in to charge, a young lad went by and goes "nice EV mate!", he knew what it was and he was impressed that someone was using the CP.

And no noise -
completely
quiet.

Just at a very – well with the Leaf – very smart family car and very easy to drive. Its funny going back to one where you've got to change gear and you've got to think, it's just easier to drive I think really.

It's just the refinement of it really as well. It's just so smooth and quiet and it's can out-perform any other car that I've driven before and people are quite often think they can race me as I think you've already mentioned.

And just put it
into D and
whoo, you're
off

I thought it was very, very comfortable, very easy to drive. A totally different car from – I drive a Mercedes SLK so it's a totally different car from mine and I love driving it. I really do.

Thank You

Any questions?