



Why is Germany staying behind in the car world when it comes to e-mobility? Not able to or not willing to keep up?

Electric vehicle registrations have increased exponentially in recent years. There are now more than two million electric cars on the roads worldwide. While the global car market remains steady, electric car registrations are growing at an increasingly fast rate. Conventional car manufacturers are facing major challenges, as the introduction of electromobility (e-mobility) demands a completely different business model. There are a number of reasons why this industry is particularly reluctant and slow to change; but how do we explain why e-mobility is starting so slowly precisely in a country which was so outstanding in automotive and engine technology in generations past? The Internet is the main research platform for future customers when it comes to e-mobility; and analysing what users think on social media should help us bring a bit of light to the darkness.

// Method

As data input for this study, we analysed 3,581 users' comments from German-language social media on the subject of e-mobility from October 2016 to January 2017. 'sentiment lab', gathered and analysed comments by Internet users, who shared their opinions on e-mobility in forums, blogs, articles or social networks. The methodology is explained in more detail at www.sentimentlab.com.

// Global market

New electric vehicle registrations (Personal Electronic Vehicles or PEVs) have multiplied tenfold in the last five years, accounting for already 1% of the global registrations in 2016. In terms of absolute numbers, there are 744,000 vehicles registered in 2016, and the market is still growing apace. [2]

In the same time frame, battery capacity has tripled, while the cost per kilowatt hour is down to one third. [3]



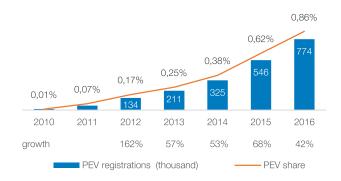


Fig. 1: PEV registrations and market share^[4]

// International comparison

Compared with the rest of the world, Germany, with around 25,000 new registrations, is not just behind China and the USA but also behind Norway, Great Britain and France.

country	number	global share	local share
China	320.081	41,35%	1,31%
United States	157.181	20,31%	0,90%
Norway	45.492	5,88%	29,10%
UK	36.907	4,77%	1,37%
France	33.704	4,35%	1,40%
Germany	25.154	3,25%	0,75%
Netherland	24.645	3,18%	6,40%
Japan	21.000	2,71%	0,42%
Sweden	13.454	1,74%	3,50%
Canada	10.067	1,30%	0,53%
Global	774.000	100%	0,86%

Fig. 2: New registrations per country^[5]

While electric vehicles account for 0.86% of the global market, the figure in Germany is just 0.75%. France and the UK already clearly have larger market shares, with figures over 1%; and Norway is in the lead, with electric vehicles representing around 30% of new registrations.

Potential buyers are asking many questions about e-mobility in Germany, but dealers and manufacturers provide few answers. As well as being not able, customers complain also that they are not willing to advise them. There is in particular often a lack of qualified information on key issues in terms of charging systems, infrastructure and range. In the comments we studied, we often find statements like:

Most dealers neither know enough or are keen enough to promote e-vehicle sales.

They don't really want to sell e-vehicles; but they have no idea about petrol users' multimedia and online systems either.

The question is then how far the German car industry is aware of the urgency and need to act. Is the sales of Opel to Peugeot just the first sign of a change? And what comes next?

// Voices in social media

Most of those interested in social media talk about the 'Hybrid' issue. This covers what people have said about hybrid vehicles of all manufacturers, followed by comments on the issues of range and (rapid) charging systems, which come under 'Batteries'. What is interesting is that there is far less discussion about the cost of vehicles (< 10%).

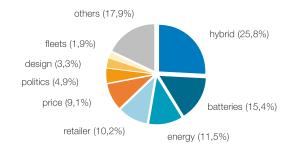


Fig. 3: Internet user's top topics

Opinions on the different topics involved in e-mobility have in general a negative tendency. The only exceptions here are the topics 'Hybrid' and 'Fleet'. What stands out is that the Toyota brand is mentioned more frequently (66% of all mentions) and favourably (cf. brand feedback) than the rest.

On the subject of 'Batteries', almost all the statements are negative. Above all it is the lack of range and long charging times, which put users off buying (cf. Fig. 4), and people ask to what extent the industry has understood what customers need and how they will take this into account in the future.

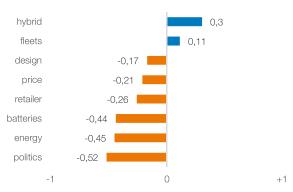
Some manufacturers have opted for a fast charging system, but very few charging posts have been built for this as being too expensive.

When it comes to 'Energy', people are also very critical. This covers statements on energy sources (nuclear power, renewable energies); and the charging infrastructure which many people see as immature also affects opinions adversely.



There are two main points people want to deal with on the subject of energy in social media. First, they want that the generated electricity should be clean, and second, that the charging infrastructure has coverage and allows that they can top up nationwide. The situation with a lack of charging stations is a particularly hot and badly rated topic.

The main thing in the foreseeable future is electricity from clean and if possible renewable sources. That would be good, not just for e-vehicles, but for all electricity users.



polarity: index of evaluation -1 (extreme negative) to +1 (extreme positive)

Fig. 4: What Internet users think

As far as the dealerships and retailers are concerned, dealers' advice and competence are the hottest topics; they also overlap partially. From what many people say, there is a nationwide lack of skill and competence, which leaves a lasting negative impression on potential customers.

What is extremely frustrating when looking for an e-vehicle is finding salespeople who have little idea. I'm not amazed if Tesla sells better.

Many users complain car dealers give bad advice on e-mobility or none at all. Anyone interested draws their own conclusions and would rather get their information online.

// Brand feedback

Many of the comments do not relate to any specific manufacturer, but are made generally; but if the manufacturer is mentioned, what stands out is that foreign manufacturers are rated much better than German ones across the board. Many German manufacturers are accused of treating e-mobility like an unwanted stepchild.

You get the impression that the discussion about the future of the car is long overdue and that we need to push the topic harder.

With commitment and further development, as with Toyota's Hybrid, we wouldn't be talking about e-vehicles any more, we'd be driving them.

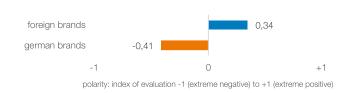


Fig. 5: Brand feedback, country of origin

Toyota is seen as the leader, particularly when it comes to the Hybrid, and is the most often mentioned and seen as the best quality of all manufacturers. It seems as if Toyota has come to occupy the role of first mover in recent years. Tesla, Renault and Nissan also are also mentioned favourably. Their electrical skills are mentioned positively in particular.



Fig. 6: Brand feedback, manufacturers

German manufacturers still have a way to go as far as e-mobility is concerned. To most users, e-vehicles are not lifestyle products, but the future of mobility: so many people can't see why German manufacturers seem to be hanging back so much. But there are plenty of opportunities to carry the image German cars had built up in the past over to the 'new' market.



// Conclusions

Our research findings show the German automotive industry has a skills gap when it comes to e-mobility. Neither the manufacturers nor the dealers seem to be able to do anything about the evident information deficit.

People often say e-mobility is expensive and that is what puts the brakes on development most; but our research shows that price is just a sideshow. People are far more concerned about key issues like charging systems, range and infrastructure. Be that as it may, though, the question then is, who can potential buyers turn to get a cost or benefit calculation?

The information deficit becomes clear amongst other things when range and lack of infrastructure are held against e-vehicles; but a Future Mobility study found that 70% of drivers in Germany drive less than 50 km (and 90% less than 100 km) a day. [6]

Independently of technical development, however, there are potential solutions for the industry:

- Consequent focus on customer centricity:
 To understand and implement what customers want, market research and marketing need to deal with ever smaller and less homogenous segments. This applies just as much to potential customers as it does to existing ones. Increasing digitalisation offers car companies an opportunity of engaging in real customer-centric marketing.
- Substantial skill development and shift of the competence focus:

E-mobility is far more than just a car with a battery. Basically, potential buyers and the doubters in particular need competent people to talk to who can answer many questions, not just about the vehicles themselves, but also on issues like charging post infrastructure. This means a fundamental upheaval in training and educating customer relations staff.

Information campaigns:

There is a major information deficit in e-mobility at present, and no-one has any idea who can reduce it when and by how much. The demand for information is a major oppor tunity for both manufacturers and the trade.

And, finally, we can say that these study findings are based on what people think online only. What would be interesting would be to compare the fears and concerns of Internet users with the experience of e-vehicle owners.

The small extract from this survey show just much information and action is required. Whatever the production opportunities and costs of an e-mobility solution are, specific areas of action are opening up in sales and marketing as interfaces with the customer to survive amongst the competition.

Study notes

The analysis is based entirely on data from freely available German-speaking social networks, forums and blogs; data was neither copied nor reproduced. The survey was conducted on a random sample basis, and does not make any claim to be complete. All data was analysed anonymously and at aggregated level, and cannot be traced to any individual users. Original comments in social media were only cited in accordance with their meanings. As well as automated, software-based content analysis with www.sentimentlab.com, 3,581 statements were validated manually for analysis purposes. Content analysis was based on individual statements/analyses, not at contribution level

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This is an English translation of the study, which was originally conducted and completed in German.

Sources

 $[1\,\&\,5\,]~Top~10~Plug-in~Vehicle~Adopting~Countries~of~2016,~http://www.hybridcars.com/top-10-plug-in-vehicle-adopting-countries-of-2016,~consulted~10.03.2017$

[2 & 4] The Electric Vehicles World Sales Database. "Annual PEV Sales", http://www.ev-volumes.com/country/total-world-plug-in-vehicle-volumes, consulted 10.03.2017

[3] International Energy Agency. "Global EV Outlook 2016. Beyond One Million Electric Cars.", p. 5, https://www.iea.org/publications/freepublications/publication/Global_EV_Outlook_2016.pdf, consulted 10.03.2017

[6] Bozem K., Nagl A., Rath V., Haubrock A.: [Electromobility: customers' views, strategy, business models: representative market study results FUTURE MOBILITY RESEARCH (2013) p. 22, Springer Vieweg Verlag

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