

# THE CONVERSATION

Academic rigour, journalistic flair

## Can Tesla's enthusiast customers help it sell the electric car for the everyperson?

Published: November 17, 2015 11.02am GMT

**Matthew N Eisler**

Visiting Assistant Professor of Integrated Science and Technology, James Madison University



Tesla owners with clever license plates: W/O GAS, TSLA 101, SUN ENRG, and SIN CO2. jurvetson/flickr, CC BY-SA

I'm in a parking lot in Menlo Park, California, with Tesla owner Darrell, part of my recent sojourn to the Bay Area to research the culture of electric vehicles.

His bright orange Roadster convertible draws admiring glances from passersby. Moments later, we are on Highway 280 winding into the Santa Cruz mountains of the San Francisco peninsula. I am startled by how quiet the car is at cruising speed, even with canvas roof panels removed.

Darrell remarks that every now and then, his wife tells him to "punch it." "So I have to punch it!" With that, he mashes the accelerator and the Roadster rocks us back hard in its low-slung seats.



webmonk/flickr, CC BY-NC-SA

In Darrell, we may see an idealized Tesla Motors owner, a “first user,” in sociological parlance. He met me wearing a Tesla-brand baseball cap. And his is a two-Tesla household. When not bombing around in their Roadster on weekends, he and his wife commute in their Model S.

Darrell spent his career working in IT administration, while enjoying the natural beauty, privilege and sense of wonder that can come with life in Silicon Valley.

“My life has been Disney. Disney and Tesla Motors are my two passions.”

In some ways, Tesla Motors is as much a dream factory as Disney. Its business model is built on the premise of the electric supercar, an automobile designed to lay to rest the perceived shortcomings of electric vehicle (EV) technology, especially unattractive styling and short range.

But current CEO Elon Musk has a bigger objective in mind: use sales of premium EVs to fund development of a battery electric vehicle for the everyperson. And first users like Darrell are key to this enterprise.

As in the case of Apple Inc, devotees of Tesla Motors strongly identify with the technology, so much so that they willingly advertise and proselytize on behalf of the company. But as Tesla expands its reach, early adopter enthusiasm may only take it so far.

### **Betting on the Model 3**

In its efforts to establish itself as a contender in the highly competitive auto sector, Tesla Motors has courted the ardor of customers like Darrell, people of means with a sense of adventure and a willingness to ignore some of the bumps and scrapes that inevitably come with pioneering new technologies.

A key element of the company’s mystique is its ability to impart agency to the customer, a feeling of actively participating in the reshaping of history. First users bond, share information and gain a sense of empowerment through the [Tesla Motors Forums](#), a semi-official sounding board.

## If you think Apple is a cult, you haven't been to a Tesla event



Tesla has a mission – to make transportation sustainable – that fosters admiration for CEO Elon Musk and the company.

To be sure, there have been more than a few blips on the road to the auto-utopian landscapes sketched by Musk. In 2014, Consumer Reports breathlessly rated the Model S “best in show,” brashly awarding it 103 of 100 possible points in a review of August 2015.

Less than two months later, the consumer guidebook issued a mea culpa of sorts, giving the car a below-average reliability rating. Owners reported a host of problems, ranging from annoyances like poor fit and finish to more serious incidents like leaking battery cooling pumps and warped brake rotors that would be costly to fix out of warranty.

Yet it is no surprise that consumer satisfaction remains high. Tesla Motors offers a very generous eight-year unlimited mileage warranty for battery and drivetrain on the Model S and the new Model X SUV. And its customer service is legendary and central to the company’s construction of brand loyalty. Darrell recounted an incident in which, after blowing out two tires on his Model S on a monster pothole, Tesla technicians recovered the vehicle on a flatbed truck and repaired it within an hour.

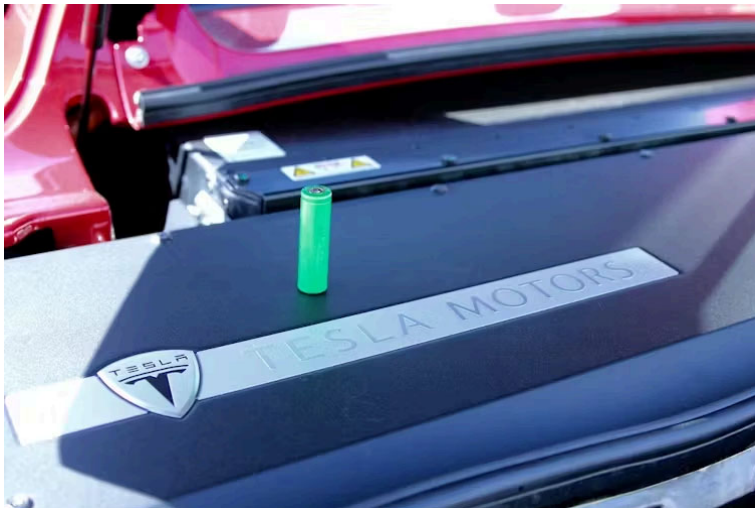
Much less clear is the role of users and the sustainability of the supercar business model as Tesla Motors attempts to transition to the mass market. The company’s current inflated stock valuation is based largely on Musk’s promise to deliver the US\$35,000 200-mile Model 3, an ostensible entry-level supercar, in 2017-2018.

With the Model 3 the company is targeting non-true believers, users who are socialized to the very high standards of cost effectiveness, comfort and convenience of contemporary gasoline engine technology. Such consumers are less likely to tolerate the high cost and teething troubles of EV technology that first users now accept as part of the price of owning a piece of the future.

## Elephant in the room

The biggest question mark around affordability and the Model 3, of course, is the power plant. Battery pack cost per kilowatt-hour is the most frequently cited issue, and the effort to drive it below \$200 per kilowatt-hour (kWh) from its current price of upwards of \$400/kWh is often seen as the most important technological objective in the project to commercialize electric automobiles.

But battery aging is the real elephant in the room. Because batteries have much shorter lifespans than electric motors, which can last for decades, so-called pure battery electric vehicles have hidden replacement costs that consumers may or may not be willing to shoulder.



Tesla battery packs include thousands of commodity battery cells (in green). But as all laptop users know, batteries degrade over time – a potential problem for Tesla and its customers down the road. arnolddeleon/flickr, CC BY-SA

Although some automakers build their own battery packs, none produce the battery cells that make up such packs except Nissan, and then only in collaboration with electronics giant NEC. And Nissan is currently debating whether to purchase cheaper cells from LG Chem as sales of its Leaf EV wane. Parts suppliers get paid first and stand to capture a significant proportion of battery replacement revenue over the lifetime of an electric vehicle.

Accordingly, most established automakers have more of an incentive to develop hybrid electrics, which require smaller and less costly powerpacks than battery-only EVs and are, hence, a less risky financial proposition.

## Aura of infallibility

But price isn't the only thing Tesla needs to get right with the Model 3. Even if Tesla Motors successfully produces the automobile at scale, it is questionable whether the company will be able to sustain its high standard of customer service, which is costly.

By some estimates, Tesla is already losing more than \$4,000 per car. A \$7,500 federal tax credit for purchases of new plug-in EVs is available only for 200,000 units per manufacturer, and Tesla has produced around 90,000 copies of the Model S to date.

In fostering the mythos of a super electric vehicle, Musk generated the hype and investment needed to sustain his company in its fledgling years. And yet, in pursuing automobile perfection, Tesla Motors has made itself a hostage to the fortunes of entropy. The optics of aging and deteriorating supercars will doubtless detract from the aura of infallibility that the company has so carefully cultivated.

The Model S incarnated the goal of reconciling environmental sustainability with comfort, style and convenience, becoming a potent symbol of liberal lifestyle values. For the romantic, well-heeled idealist, much could be forgiven with a goal so laudable.

But for average, non-first users, the unknowns of electric automobiles – and of aging batteries above all – will test their willingness to march in the vanguard of the revolution in sustainable automobility.