Plug-in Vehicles, Retail Performance and Policy

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What are the main questions we are trying to answer?

1. Is the retail experience better/worse/same for PEV buyers?

2. Do different introduction approaches achieve better/worse results?

3. What barriers and drivers appear to affect dealer performance and engagement in PEV sales?

4. Are there opportunities for policy?
We used a multi-method research approach

- Literature Review
- Exploratory interviews
- Survey data:
  - J.D. Power 2013 Sales Satisfaction Index (SSI) Study
  - California CVRP Survey (Nov 2013 – January 2014)
- Interview data:
  - 63 total semi-structured interviews
  - Included 21 new car dealers, 6 automakers, 5 utilities
  - 20 site visits & 38 on-site dealer interviews
Overall Retail Satisfaction (Non-Premium)

Buyers of non-premium plug-ins rated dealers significantly lower than conventional car buyers

Source: 2013 Sales Satisfaction Index (SSI) Study, JD Power & Associates
*Predicted mean: model controls for income, education, gender, and generational affiliation, as well as factors cited as unique to plug-in buyers by dealers (N = 13,526)
Background and literature

- 17,000+ independent dealers nationally
- Localized service, warranty & repair support
- Facilitate trade-ins and consumer credit
- Access to broader and deeper markets
- Institutionalized products in mature markets
- Dealers are optimized to fulfill demand
Dependency and power in auto sales

- Franchised businesses
- Strong local political influence
- Arms-length OEM-dealer relations
Plug-ins are more like ‘high-tech’ products, which involve:

- Changes in customer behavior
- Customer reliance on new infrastructure
- High uncertainty in the purchase decision
- Split between early and mainstream market
  - Early market = Create demand + discover end-to-end needs
  - Main market = Deliver seamless end-to-end experience
- Selecting an optimal distribution channel
  - Niche approach is most effective
  - Transition strategy
- Competency-building by channel partners
Contingency View of High-Technology Marketing

Adapted from Mohr et al., 2013
A Research Model of the Performance Implications of Fit Among Innovation Type, Market Introduction Strategy and Performance

**Type of Innovation**
- Incremental (ICE)
- Discontinuous (PEV)

**Introduction Strategy**
- Mass Market
- Innovation-specific

**Innovation type and introduction strategy relationship**

**Performance**
- Subjective
- Objective (Retail Satisfaction)

**Control Variables**
Average Buyer Satisfaction with the New Vehicle Purchase Experience

- Conventional Vehicle Buyer (non-premium makes)
- Plug-in Vehicle Buyer (non-premium makes)
- Conventional Vehicle Buyer (premium makes)
- Tesla Motors Buyer (premium makes, male only)

Mean Buyer Rating (Source: J.D. Power)
To many dealers, PEVs are a hassle

- Deeper and wider product knowledge
- High sales force turnover deters investment
- Disproportionately large investment...
  ...for a much smaller portion of sales volume / return
  - Longer sales cycle
  - Longer transaction and delivery times
  “[A salesperson] can deliver a car in a half hour. You’re not delivering a [PEV] in a half hour. You’re looking at... nothing less than an hour.”

- Questionable profits; meager salesperson take
  ‘I get these PEV drivers who use my electricity for free and eat all my donuts’
To other dealers, PEVs are an opportunity...

• See electrification as a long-term trend
• PEVs align with branding strategy
• Recognize a strategic opportunity to:
  ➢ Win new customers
  ➢ Grow market share
  ➢ Draw customers from other dealer territories
  ➢ Increase sales turns (e.g. via returns from leases)
• Executive-level product champion
• Near affluent communities and HOV lanes
• Tech-savvy sales person
Purchase Transaction: Average Time Spent by Customer at the Retail Facility

- Selecting your vehicle
- Negotiating your deal
- Finance & Insurance ("F&I")
- Wait time before delivery
- Taking delivery

<table>
<thead>
<tr>
<th></th>
<th>Conventional Buyer (non-premium)</th>
<th>Plug-in Buyer (non-premium)</th>
<th>Conventional Buyer (premium)</th>
<th>Plug-in Buyer (premium)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selecting your vehicle</td>
<td>70</td>
<td>66</td>
<td>76</td>
<td>55*</td>
</tr>
<tr>
<td>Negotiating your deal</td>
<td>52</td>
<td>48</td>
<td>48</td>
<td>65*</td>
</tr>
<tr>
<td>Finance &amp; Insurance</td>
<td>41</td>
<td>36*</td>
<td>33</td>
<td>12*</td>
</tr>
<tr>
<td>Wait time before F&amp;I</td>
<td>39</td>
<td>40</td>
<td>37</td>
<td>7*</td>
</tr>
<tr>
<td>Taking delivery</td>
<td>27</td>
<td>23*</td>
<td>26</td>
<td>45*</td>
</tr>
</tbody>
</table>

Time Spent by Customer at the Retail Facility (minutes)

(1) Tesla spends ~67% and 25% more time with buyers at delivery than dealers of non-premium and premium makes, respectively.

(2) Shorter upstream processes means Tesla buyers may be more receptive to extra time and attention at delivery.

Source: 2013 Sales Satisfaction Index (SSI) Study, JD Power & Associates

*Denotes significant difference from conventional buyers at the 95% confidence level (N = 19,274)
The delivery process may matter more to plug-in buyers

Premium plug-in buyers rate retailers much higher when considering explanation of vehicle features at delivery… And are more forgiving on overall score when less satisfied.

Source: 2013 Sales Satisfaction Index (SSI) Study, JD Power & Associates
“Dealer innovators” implement new approaches

- Designate seasoned PEV specialist(s)
- PEV specialist(s) drive PEVs daily
- Convey total monthly savings
- On-lot marketing
- Target corporate & university campuses with ride & drive events and special pricing
- Facilitate home charger installation
- Assist with incentive paperwork
Emerging data suggests plug-in customers may value new forms of support

### Importance and availability of ancillary products and services to PEV buyers

<table>
<thead>
<tr>
<th>Service</th>
<th>% PEV buyers rating service as valuable or very valuable</th>
<th>% of dealers offering the service</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOV stickers affixed to car at purchase</td>
<td>23%</td>
<td>86%</td>
</tr>
<tr>
<td>Assistance preparing rebate/HOV forms</td>
<td>34%</td>
<td>83%</td>
</tr>
<tr>
<td>PEV Product Genius</td>
<td>25%</td>
<td>78%</td>
</tr>
<tr>
<td>Assistance selecting/installing home charger</td>
<td>30%</td>
<td>73%</td>
</tr>
<tr>
<td>Configuring Supporting Apps</td>
<td>46%</td>
<td>71%</td>
</tr>
<tr>
<td>&quot;Try before you buy&quot; program</td>
<td>14%</td>
<td>66%</td>
</tr>
<tr>
<td>Charging network enrollment</td>
<td>9%</td>
<td>63%</td>
</tr>
<tr>
<td>Tutorials/workshops for new owners</td>
<td>24%</td>
<td>61%</td>
</tr>
<tr>
<td>Access to non-EV for occasional use</td>
<td>9%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Source: 2013-2014 ARB CVRP Survey
Dealers may follow consumer adoption patterns

Technology Adoption Life Cycle Model

To ensure quality, dealer participation should be gained in sequential stages. Engaging all or most dealers from the outset could undermine customer adoption.
Key Observations

• PEV training and support is largely undifferentiated
• Large differences in quality amongst dealers
• High turnover hinders sales force training
• Liability concerns deter some dealers from marketing public incentives
• Intra-brand price competition may deter dealer investments that better support plug-in buyers
• Sustained sales momentum feeds learning retention
• Many utilities would be doing more if not for regulatory restrictions
Dealers urge “retail friendly” policies

1. Minimize dealer burden

2. Keep the incentives coming

   “I tell everyone about the $2,500. Most of them don’t know actually. So that’s what... sells the car.”

   “If you take the HOV incentive away... we saw that with hybrid... We went from selling 30 a month to seven.”

3. Ensure certainty in amount and availability of incentives

4. Shift incentives to the point of purchase

   “Given the choice between $2,500 as it is now or $1,500 at point of sale... I’d take the point of sale stuff. It would be more valuable at the dealership level.”
More on “retail friendly” policies...

5. More charging infrastructure (Battery EVs)

6. Reduce minimum ownership period

“What if California offered $1,000 or $1,500 if you had a two-year lease? I think that would even push [PEVs] even more... They don’t want to be in it for three years. They come back in another two years, I’m happy.”

7. Dealers need the whole incentive picture

“The government tools... are fragmented.”

“If there’s a separate sticker... that the government provides... that’s applied at the point of the dealer... I think that would work best.”

8. Add public incentives for dealers

“When the big bonuses stopped, so did the sales. So if you make it worth somebody’s while, they become an expert on the car overnight.”
Findings point to a dual-path approach to close the retail quality gap

1. Accommodate alternative retail models
   - PEVs may initially call for alternative distribution channels
   - Policy should make space for innovation-specific strategies
   - Protections for consumers must be preserved

2. Institute “retail friendly” policies & incentives
   - Pull benefits to point-of-purchase (e.g. sales tax exemption, reserve HOV decals and rebate funds)
   - Use a targeted approach toward dealers
   - Engage stakeholders to support dealers
   - Consider modest dealer incentives to bolster momentum (tie to performance)
   - Support niche approaches
Recap

• Industry is leveraging mass market channels
  ➢ Great at accessing mainstream customers
  ➢ Less so at reaching early customers and stoking demand

• Channel conflict “on steroids”

• Alternative approaches are needed to close the quality gap

• More “retail friendly” policies & incentives are needed

• Dealer participation should be gained in stages

• Dealers need packaged support; stakeholders can play an enlarged role
Thank you!

QUESTIONS?

Please contact Eric Cahill (eccahill@ucdavis.edu) for more information