Reality Check: Consumer Sentiment on Future Mobility Technologies Declines Even Before the New Normal Hits, J.D. Power and SurveyMonkey Find

Tech Failures, Lack of Knowledge, Inexperience Create Roadblocks for Acceptance

TROY, Mich.: 21 April 2020 – Consumer confidence in future mobility technologies lags far behind automakers' plans to bring self-driving and battery-electric vehicles to the marketplace, according to the J.D. Power 2020 Q1 Mobility Confidence Index Study fueled by SurveyMonkey Audience,SM released today. The Mobility Confidence Index for self-driving vehicles decreases for the first time—to 35 from 36 on a 100-point scale—for American consumers and to 36 from 39 for Canadian consumers. For battery-electric vehicles, the index remains at 55 in the U.S. for the fourth consecutive quarter, while decreasing to 57 from 59 in Canada.

"Frankly, we're concerned for automakers," said **Kristin Kolodge, executive director of driver interaction & human machine interface research at J.D. Power**. "They're pushing forward with technology that consumers seem to have little interest in. Nor are they making the strides needed to change people's minds. Especially now, automakers need to reevaluate where they're spending money. They are investing billions in these technologies but they need to also invest in educating consumers. Lack of knowledge is a huge roadblock for future adoption."

The quarterly study is the pulse of market readiness and acceptance for self-driving and battery-electric vehicles, as seen through the eyes of consumers and industry experts. The 2020 Q1 study includes insights from the United States and Canada. J.D. Power is joined by global survey software company SurveyMonkey to conduct the study in which more than 8,500 consumers and industry experts gave their opinions about self-driving vehicles and more than 8,000 about battery-electric vehicles. The survey was fielded in March 2020 before most stay-at-home orders went into effect.

Following are key findings about self-driving vehicles:

- Consumers don't believe the technology is ready—or that society is ready: Technology failure or error remains the top concern about self-driving technology in both countries, with Canadians being even more worried about it (75% compared with 67% in the U.S.). Canada's climate and mountainous terrain present a significant challenge as one consumer said of self-driving technology: "Not practical in Canada where there is snow and messy roads. The cameras required cannot see clearly at all times as would be necessary for them to work properly and safely in this climate. I'm basing my statements on the automation in our own car that only works occasionally when the roads are dirty due to camera filth." American and Canadian consumers also are worried about the law of unintended consequences that will come about as a result of self-driving vehicles. Concerns about creating a lazy society dependent on technology and with diminished driving skills is a heightened concern.
- Uncertainty about timeframe for public availability: Experts anticipate self-driving delivery services will be available in the next four years. However, their predictions for self-driving vehicles available for consumer purchase has jumped out to 18 years; five years later than predicted in the 2019 Q4 study.
- **Changing needs post COVID-19:** Experts anticipate that consumer needs for mobility may shift even after life returns closer to normal. Said one, "Coronavirus outbreak may steer some people

away from shared transportation toward more private vehicle ownership, and some of these private vehicles may evolve from sophisticated ADAS to higher levels of automation." Also, self-driving delivery services may arrive at an optimal time when consumers are looking to minimize social contact.

"The National Highway Transportation Safety Administration recently approved Nuro to test its driverless delivery vehicles on public roads in California, which accelerates the feasibility of self-driving delivery coming to market," Kolodge said. "However, automakers continue to encounter technical hurdles in their quest to achieve reliable self-driving personal vehicles. Coupled with consumer sentiment about the technology, there's still a very long road ahead."

Following are key findings about battery-electric vehicles:

- Few consumers have any experience with battery-electric vehicles: The majority (70%) of American respondents have never been in a battery-electric vehicle, and 30% say they know nothing about them. Canadians are only slightly more experienced with battery-electric vehicles (67% have never been in one) but are more knowledgeable, with 19% saying they know nothing about them. One consumer said, "I like the idea of an electric powered vehicle, but at what cost? Once the batteries need replacement, how expensive are they? How do old electric car batteries affect the environment? Are they able to be recycled, or will they make the landfills even more toxic? Would I get an electric solar powered car? Yes. But wouldn't they also need batteries and then be in the same situation?"
- **Previous ownership doesn't guarantee future purchases:** While 29% of American consumers and 31% of Canadian consumers express some likelihood to purchase an EV in the next four years, almost the same amount have no intention to purchase one. Some who have previously owned a battery-electric vehicle won't buy again due to high maintenance costs, purchase price, limited range and performance in extreme weather. One consumer noted, "Absolute hoax, does not provide enough heat to clear windows in cold weather. Car is cold to ride in in the winter."
- **Perpetual barriers remain:** Charging station availability, driving range and purchase price are the top 3 barriers to battery-electric vehicles as perceived by American and Canadian consumers today. These were also the top 3 barriers in 1997 when J.D. Power studied consumer interest in electric vehicles when the GM EV1 was launching. Vehicle technology and infrastructure availability have progressed dramatically in 23 years, but consumers have not budged in their perception. Even those who have owned a battery-electric vehicle previously have these items as their top 3 barriers.

"The marginal short-term shifts in consumer sentiment toward self-driving vehicles only show we're yet to see the lasting implications of the current crisis on consumer preferences", said **Jon Cohen, chief research officer at SurveyMonkey**. "But we know big changes are ahead, as physical distancing will shake virtually every major industry, including automotive and how we get around. These surveys will give us a glimpse of that future as new consumer preferences form and stick."

See the online press release at http://www.jdpower.com/pr-id/2020041.

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