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AUTO INTELLIGENCE

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WHO'S REALLY SHAKING UP THE AUTO INDUSTRY?

The perception that the auto industry is being shaken up by the titans of the tech sector, like Google and Apple, can be overstated, argues Toyota's Chris Reynolds. These are times of huge change. But the greatest disruptive force of all is a more familiar one – the customer.

CHRIS REYNOLDS, TOYOTA'S GLOBAL GENERAL COUNSEL, starts by making one thing very clear.

“The notion of being the world's biggest car company, we've learned, is not an objective to be desired.

“It leads to distortions in your strategic thinking, it gets your eye off the ball in terms of the focus on your customer and every auto company that has tried to reach that goal has hit a bad patch.”

It's happened to Toyota, he says, and to other big automotive brands. But it's not a mistake the Japanese company will make again.

“In fact we're at the point in our company culture where, if someone stands up and says we are the world's biggest car company, they'll get hooted down and fruit and vegetables will be thrown at them,” he says.

Toyota has, of course, sold more cars than any of its rivals, achieving nearly 10.2 million sales worldwide in 2015.

And, while that scale may no longer be seen as the prize it once was, it does give the company a unique vantage point from which to see the tides of change sweeping the industry.

DISRUPTION – A SUBTLER PICTURE

The perceived wisdom is that car making is being disrupted, as so many industries are, by the march of new technology.

In particular, it is being shaken up by the determination of tech giants like Google, Apple and the electric car specialist Tesla, to crash the party by winning the race to commercialise driverless or 'connected' cars. That would allow them to claim a share of the industry's future revenues, a top line that McKinsey has estimated could increase by 30% or USD1.5bn by 2030 thanks to new technologies and business models. “It's really a lot more nuanced and subtle than that,” argues Chris.

Tesla, the biggest of the new automotive groups, has yet to prove it can overcome the high barriers of entry into this highly capital-intensive industry to survive long term as an independent, global player. For Google and Apple, developing driverless cars seems to be about creating a new platform for their software. Do they really want to make cars on a mass scale?

“This whole conversation reminds me of when everyone was saying big oil was going to fall by the wayside. People have been saying that for 20 years,” he says. “I don't think you are going to see a huge change to the existing set of automakers because of those three potential entrants.”

China, he believes, is the most likely source of new competition, with a number of players emerging that have the capital, access to labour and government support needed to build a real global presence.

SHARING THE ROAD WITH RIDE-SHARERS

Online ride-sharing companies, however, do pose a more immediate threat and, not surprisingly, this is an area where the big car makers and tech companies are investing heavily. Toyota has formed a strategic partnership with Uber, for example; GM with Lyft; VW with the New York ride-share operation Gett; and Apple with China's equivalent, Didi Chuxing.

“What these companies threaten is the desire to buy a car. Every time they reduce the need for a driver or passenger to own or lease a car to solve their mobility needs, that's a problem for any automaker,” he says.

However, he notes that ride-sharing only really works as a business model in densely populated urban areas and is unlikely to pose an “existential threat” to the industry. “There are vast patches of the world where the density that Uber needs to operate profitably doesn't exist and yet all of those people need mobility too.”

CUSTOMERS ARE THE REAL CONCERN

The biggest disruptive force of all, he insists, is a more familiar one.

“We are much less worried about competition than we are about the customer. And it's not just one customer, but many kinds of customers,” he says, noting the huge differences between customer demands in mature markets, like the U.S., Europe and China, and those in developing markets.

Consumer choice in developed markets is varied and, to some extent, generational, particularly when it comes to automation and connectivity.

“Take the Y generation. They have a very different relationship with the car than their parents or their grandparents did. So we have to sculpt or create mobility choices for a generation that views technology a lot more disposably and expects technology to be embedded in everything. That's a conundrum every automaker, including Toyota, is trying to crack and it's the conundrum that brought Google and Apple into the space.”

But it's also vital to meet the needs of customers in markets, and there are many, where the vehicle of choice is the pickup.

Two phrases have been adopted by Toyota to capture their strategy – ‘Always Better Cars’ and ‘Sustainable Growth’ – and the customer is central in both.

“Our strategy is to identify the specific mobility needs of our customers and try to address them. Of course we can't address every single one; we can't be all things to all people. So we look at variations in our global market and target the product to the consumer, while trying to make sure we don't have such excessive variation that we get drowned in cost.”

FINDING NEW WAYS TO INNOVATE

Part of that sustainability and better car agenda is all about finding new ways to continue Toyota's proud record of technological innovation in areas like hybrid cars, drivetrain technology and hydrogen fuel cells, all offering significant environmental benefits. These are massive long-term investments that will take decades to pay back yet are made “with a smile on our face”.

But he admits there has been a change of culture within the company in this respect. Toyota, he says, has a strong and deep engineering culture that can, from time to time, create an ‘if we didn't make it it can't be good’ mindset.

“In a world where you've got Google, Apple and Uber and all sorts of advances being made in AI and connectivity, you can't assume you've got the lock on all the good innovation,” he says. “So what we're now saying is: OK, we're good, but we have to keep our eyes out, learn from others and, where appropriate, partner with them. That's a change in our culture and one we're marching very rapidly through the company.”

Faster and more independent decision making within different parts of the company is also being encouraged. That is, perhaps, most obvious in the newly established Toyota Research Institute, its artificial intelligence and robotics lab, run by Gill Pratt, former head of robotics at Darpa, the U.S. Department of Defense's research arm.

“To come up with really meaningful innovation you've got to give people engaged in research the freedom to come up with and invest in new ideas. But that reflects a broader approach in the company today,” he says, noting that Toyota has been reorganised into seven distinct and more independent internal divisions, each dealing with different car categories.

“We’ve given each of these groups a level of autonomy to pursue the cars we think our customers will want in future because we think our decision making will be faster and more nimble in these internal companies than it was in the past with one big Toyota.”

This kind of freedom to think and invest in partnerships will be a real help in speeding Toyota’s understanding of what the customer will want and will accept in driverless technology and in connectivity. “The biggest benefit we see is in customer satisfaction and safety. But nobody’s really got to the bottom of what the benefits and opportunities of a fully connected vehicle are yet. Our strategy is to understand that as quickly as we can.”

AN INDUSTRY IN TRANSITION

Chris is clear that the shape of the industry will change in the next ten years. Continuing consolidation as well as the entry of new players able to mass-produce vehicles could produce a different line-up of top manufacturers. There are also likely to be many more cross-sector tie-ups between hardware and software makers, whether through mergers, joint ventures or contracting-out arrangements.

But further out the changes will be much more profound, he says.

“Fifty years from now, cars will be mobility solutions – thinking machines that help you solve your mobility problem.”

In that sense mobility will be looked at much more broadly, from a machine that can get you from home to work, to one, for the older and frailer person, that can get you from your bed to your kitchen table.

“Where we are going as a company is looking at the full range of what mobility will mean for humans in the next 50 to 100 years.” Given that, it’s easy to understand why ‘sustainability’ has become a watchword for Toyota CEO Akio Toyoda.

“He has made it very clear that we are not here to be the world’s biggest car maker. We’re here to grow sustainably year by year, so that 100 years from now, whatever the mobility needs may be, we are providing those solutions.

“That means always taking a long view: certainly trying to satisfy as many customers as possible but also making sure our relationship with those customers is passed on from generation to generation.”

THE CHAUFFEUR V GUARDIAN ANGEL – A FOCUS ON SAFETY

While there will undoubtedly be fully automated cars, Toyota is betting that, in the short term, artificial intelligence and connectivity will be used to make drivers at the wheel safer, rather than redundant, says Chris.

“It’s a choice between fully automated cars where you have a ‘chauffeur’ and you’re doing your nails or shaving while the car drives you from home to work. Or do you go for a ‘guardian angel’, where the car lets you know you are drifting out of lane or that there’s a traffic jam up ahead and that you need to slow down or, if you’ve missed that warning or fallen asleep, the vehicle takes over and gets you to a point of safety?”

“The guardian angel concept is probably much closer within grasp and likely to get to market faster than the chauffeur concept. It increases driver and passenger safety and that’s got to be everybody’s primary concern,” he says. “It’s certainly Toyota’s primary concern.”

CHRIS REYNOLDS

Managing Officer and General Counsel, Toyota

“We are much less worried about competition than we are about the customer. And it’s not just one customer, but many kinds of customers.”

STAYING IN THE DRIVER'S SEAT

The race to develop driverless cars creates a host of technological, legal, financial and cultural challenges for the giants of the auto industry and their tech sector rivals, argue Filip Van Elsen and Mitchell Silk. The learning curve is steep.

SINCE THE VERY FIRST CAR TOOK TO THE ROAD, one basic principle has always held true – a car won't go very far unless there's someone behind the wheel.

But as the race to build so-called 'driverless' or autonomous vehicles intensifies, that principle is being challenged and, along with it, all the regulatory and legal assumptions that have underpinned this industry since its birth.

Rapid advances in technology and data analytics have, of course, already disrupted many industrial sectors. Now the development of connected cars, packed with data-rich systems and artificial intelligence (AI), is beginning to turn the traditional business models of the auto industry on their head.

NEW RULES OF THE ROAD

Mitchell Silk, a partner in our New York office, pinpoints two overriding challenges for car makers. Firstly, the development and deployment of AI in cars, and, secondly, the collection and commercialisation of huge banks of data produced by the connected software systems they are being fitted with.

Both are challenging existing legal and regulatory frameworks, he argues. "With either no regulation, or very new laws, governing this area, how do policymakers keep pace with or stay ahead of these dynamic developments in technology?"

Data presents some of the biggest challenges. Finding ways to own, exploit and monetise car data should give car makers access to a valuable new revenue stream. But that means handling, processing and sharing masses of highly personal data at a time when data protection and privacy rules are set to get much tighter.

The EU's General Data Protection Regulation, which will apply from 25 May 2018, will impose not only very strict rules on data processing, but also punitive sanctions, including potential fines of up to 4% of the total global turnover for some breaches.

Filip Van Elsen, a partner in our Antwerp office and head of our global telecommunications, media and technology (TMT) sector group, admits that EU policymaking in this area is ahead of the rest of the world, but says it is increasingly providing the model that the U.S., China and the rest of Asia are following.

Principles such as "purpose limitation, transparency, predictability, proportionate collection and use of data, and security" will become increasingly standard in many jurisdictions, he says.

THE CYBER CHALLENGE

Cybersecurity is another area of significant concern. Giant data banks are highly vulnerable to cyber attack; so too are the connected cars themselves.

Here new regulations are coming into force as well. The EU's Network and Information Security Directive imposes very high security standards, and strict rules for reporting breaches, on operators of critical pieces of infrastructure. In transport, it focuses particularly on 'intelligent transport systems'.

Filip again: "By fitting connected devices in its cars, a car maker will qualify as an operator of essential services and therefore need to adopt adequate security measures, be forced to report breaches without any undue delay and within 72 hours, and be subject to audits by cybersecurity regulators. The winners will be those that succeed in jumping this complex array of regulatory hurdles."

A QUESTION OF LIABILITY

Even if these hurdles are overcome, others lie ahead.

Take the issue of who is liable if an accident occurs: is it the car maker, the software developer or the owner of the car? Such questions are no longer just theoretical. In July this year U.S. highway authorities opened an investigation into an, admittedly rare, fatal collision involving an electric car fitted with self-driving technology.

"With different types of liability, both civil and criminal, and different liability regimes to take account of, this is a potentially fraught area," says Filip. "The general point for car makers is this: what is the standard of care they need to comply with if there is a security incident or accident?"

STRATEGIC PARTNERSHIPS AND FINANCIAL INNOVATION

Traditional car makers are also learning to be fleet of foot in other areas too, not least in forming new strategic partnerships, financing acquisitions, and in controlling and exploiting valuable intellectual property. In many cases that involves a significant change in culture.

No stranger to deal-making and joint-venturing, car makers are, however, used to dealing with their traditional peers or research institutes where timetables tend to be long, decision-making processes slow, and M&A governance procedures exhaustive.

In this new connected arena, potential partners will be quick-moving tech groups and start-ups. As Mitchell puts it: “In the world of seed and venture capital, start-up and private equity investment, fast is the name of the game. Those that can’t keep up just get left behind.”

“Technology issues are much more important in these deals – open source, software, licensing and joint ownership of IP,” notes Filip. “Car makers are now entering a different space and dealing with agile, often early stage, high-tech operations, often with the owner at the negotiating table.”

A NEW KIND OF PARTNERSHIP

Our own relationship with a client like Toyota is changing rapidly in this febrile environment.

Increasingly, we are working in partnership to address new legal, market and investment developments, troubleshooting potential challenges together and sharing ideas on how to grasp opportunities.

“It’s an increasingly valuable way to work,” says Mitchell, “continuous real time collaboration.”

“Because the issues are so novel and because every point, every structure, every regulatory issue that confronts Toyota is so new, we are finding that we are both, equally, moving up a steep learning curve together.”

At a time of great change, it is about staying in the driver’s seat.

FILIP VAN ELSEN

Partner, Allen & Overy

“By fitting connected devices in its cars, a car maker will qualify as an operator of essential services.”

MITCHELL SILK

Partner, Allen & Overy

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