



THE CHANGING FACE OF MOBILITY

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CONTENTS

Disrupting the Car	03
Mobility Solutions Providers	05
Micromobility and Last-Mile Solutions	07
Vehicle Electrification	08
Automotive Retail Disrupted	10
The Changing Face of Consumer Engagement	11

1

DISRUPTING THE CAR

The automotive industry has been turned upside-down in recent years. A number of disruptions including technological advances and changes in retail models, consumer behaviour, regulation, communications and engagement have turned the industry on its head. Today, the average consumer uses a combination of mobility options to get around, often using a car, public transit mode, rideshare and last-mile solution such as a public ebike or scooter — all within the same journey.

The days of traditional car dealerships are numbered, largely due the expectations stemming from the ecommerce retail model which have forced auto retailers to get ever more creative to entice people through the doors. Meanwhile, electric vehicles (EVs) have changed the way we think about cars and fuelling them, with a growing number of companies offering electric models to keep ahead of increasingly prevalent emissions regulation and appeal to eco-conscious consumers.

The 2009 launch of mobile-powered ride-hailing company Uber dramatically changed consumers' relationship with mobility. Suddenly, instead of owning and maintaining a vehicle — with all the hassles that entails — one could simply summon one instantaneously through a smartphone app. Even users that do own vehicles benefit from the service by not needing to worry about parking or driving after consuming alcohol. As the popularity of ride-hailing grew, consumers became ever more accustomed to the idea of life without necessarily owning a car, a change that is particularly pronounced in places like Europe that have robust public transport systems. However, in many US cities, car ownership has been shown to be on the rise, contrary to expectations that solutions like ride-sharing would make vehicle ownership all but obsolete.

There were 276.1 million registered vehicles in the US in 2018, up from 270.4 million in 2017. It is projected to reach 281.3 million by the end of 2019.

Startups and established brands alike are presenting disruptive products and services in response to changing consumer behaviours, which are in turn closely tied up with technological advances. For example, ecommerce and the rise of the Internet of Things (IoT) is intertwined with consumers' growing expectation of convenience and stellar, almost instantaneous customer service. Meanwhile, advances in data analytics and machine learning allow for more personalised offerings while making consumers' lives easier through services like automated parking location and even driverless vehicles. Conscious consumers increasingly seek options that reduce their impact on the environment, and younger consumers in particular are embracing a non-ownership model of engaging with mobility, in part due to economic constraints.

In this ever-shifting environment, automotive companies need to adapt and remain in touch with the needs and desires of their consumers. This wave of change has affected not only the nature and perception of mobility, but has also brought about a transformation in the way automotive brands engage with their customers, what the automotive sales model looks like today, how cars are powered, and what the mobility journey looks like as a whole. From ridesharing and electric vehicles to micromobility solutions for last-mile transportation such as electric scooters to telematics, autonomous vehicles and even flying cars, the possibilities for innovation in this sector are endless.

“We’re moving to a situation where the car, the product, is not the centre of everything. It is just part of a bigger ecosystem of getting around and everything related to it.”

- Andy Moore, designer at Fjord, Accenture Interactive.

2

MOBILITY SOLUTIONS PROVIDERS

The face of mobility is changing rapidly as automakers and OEMs start diversifying their offerings and creating shared mobility services. This is spurring increased competition in the mobility solutions sector, creating a need for transport sharing startups to evolve and innovate. Mobility service providers increasingly seek to integrate everything from micromobility last-mile transportation solutions, to public transport, to flying taxis into holistic mobility solutions so that consumers can experience seamless end-to-end solutions to all their transportation needs.

Companies in the mobility sector are increasingly consolidating multi-modal transportation data through a single platform, including information about bike-sharing, scooters, ride-hailing, car sharing and taxis and public transport options, despite the fact that these cover different brands and service providers — truly creating mobility ecosystems through collaborative efforts. This shift addresses consumers' desire for flexible modes of transportation depending on their needs. With the rise in car-sharing and subscription models, micro-mobility and the availability of transport data, ever more consumers are turning away from buying cars, preferring access over ownership.

Many traditional automotive companies are moving into this space in order to remain relevant in a world where car ownership is dwindling. Automakers including Porsche, BMW, Audi and Mercedes are offering flexible vehicle subscription services that allow members to switch between vehicles to fit their lifestyle needs, without having to spend large amounts of money buying them.

Mobility solutions providers that seek to thrive in this new world will need to remain up to speed on developments and aim to cater to consumer needs in an increasingly competitive space in order to remain the consumer's mobility provider of choice. Using data to understand consumer behaviour and offer solutions that fulfil all their needs will help companies to acquire loyal customers.

A 2017 last-mile mobility partnership between US passenger railway service Amtrak and the ride-hailing service Lyft started to offer ride-hailing service through the Amtrak app to make passenger journeys seamless. Similarly, in mid-2019, German public transport company BVG will launch its 'Jelbi' platform, which aims to provide access to a number of transportation options, including bike-sharing, scooters, ride-hailing, carpooling, car-sharing, taxis, and the entire public transportation system — all through the same app.

Uber introduced a 'transit' option in its app in January 2019 for customers in Denver, offering a list of bus and train routes and their expected fare price and end-to-end routes. The ride-hailing giant is gearing up to make its app a one-stop solution to all consumers' mobility needs. The move will likely grow its revenue, as commuters will see how much time they might save by summoning an Uber, or taking an Uber for part of the way. The company is even exploring the vertical mobility space with helicopter rides and through its Uber Elevate initiative.

CHALLENGES

How can mobility companies create productive partnerships and collaborations with other organisations including public transit organisations to offer truly integrated mobility offerings?

OPPORTUNITIES

By staying abreast of consumer needs and preferences, mobility solutions providers can collaborate with other businesses to give consumers the best and most flexible solutions, using data analytics to personalise offerings to the individual's preferences and habits. With the advent of autonomous vehicles, the daily commute could even be reimagined as a time that serves other purposes, with vehicles doubling as spaces in which to work, eat, exercise, or simply relax, while the vehicle does all the work. For those who wish to move quickly, the solution may come in the form of vertical mobility, moving above the ground with VTOLs (vertical take off and landing vehicles) or beneath it with advances like hyperloops.

3

MICROMOBILITY AND LAST-MILE SOLUTIONS

The average US commuter spent **155 hours in traffic** congestion in 2018.

60% of car trips and some **20%** of public transit trips are distances shorter than 8km and could potentially be replaced by micromobility solutions.

Micromobility and last-mile transportation solutions are becoming increasingly prevalent, largely in the form of bike-sharing programmes such as Ofo and Mobike in China and Citi Bike and Jump Bikes in the US. Paris's regional transport agency Ile-de-France Mobilités (IDFM) introduced 10,000 for long-term rental in September 2019 to promote bicycle commute and reduce congestion and pollution. This sector has been significantly boosted by the shared, dockless electric scooters pioneered by Lime and Bird in the US in 2018. Like shared bikes and ebikes, scooters provide a convenient last-mile mobility solution, while helping to address congestion and pollution in cities, exacerbated by rapid urbanisation.

More than a quarter of the world's population lives in cities with more than one million inhabitants, and vehicle traffic speeds in many of those city centres are now averaging as little as 15km an hour (about nine miles per hour). Micromobility offers some city dwellers an escape from this frustrating and stressful experience through higher average speeds, less time spent waiting or parking, lower cost of ownership, and the health benefits of being outdoors.

Micromobility theoretically encompasses all passenger trips of less than eight kilometres (five miles), which accounts for as much as 50-60% of today's total passenger miles travelled in China, the European Union, and the United States.

CHALLENGES

As an emerging form of transportation, how can micromobility solutions be integrated into city planning, and what role does automotive companies play in this ecosystem?

OPPORTUNITIES

Despite its simplistic nature, micromobility offers a powerful solution to the last-mile mobility challenge, which is a significant feat, given the scale of problems like congestion, pollution and the basic need for effective inner-city transportation systems. As a result, micromobility solutions providers are finding it easy to collaborate with local authorities. With strategic collaboration and improved infrastructure and city planning, companies in this sector may become highly profitable in the long term.

4

VEHICLE ELECTRIFICATION

Electric cars will make up 57% of all passenger car sales worldwide by 2040.

We have entered the age of the electric car. Around the world, manufacturers are embracing electric drivetrains across all types of vehicles, driven by both the need for carbon footprint reduction and technological advances including improved battery and charging capabilities.

This change is in part driven by regulatory changes that seek to lower emissions. A growing list of countries have begun implementing bans on sales of new internal combustion engine (ICE) vehicles. Some, like Norway, have set the cut-off date as early as 2025. Meanwhile, a number of countries offer tax incentives for electric vehicles (EVs), which has boosted sales and competition, although these subsidies are often tied to price, range or specific sales quotas.

While Tesla may have brought electric cars into the mainstream, it was hardly the first automotive company to take this path, and certainly not the last. US automaker General Motors produced and leased an electric car dubbed the 'EV1' from 1996 to 1999, which was the first mass-produced electric vehicle from a major automaker. However, the programme was discontinued in 2002.

At a time when few other major automakers were active in the highway-legal EV space — not counting hybrids like the Toyota Prius — Tesla released its first car, the completely electric Roadster, in 2008, going on to launch the Model S, Model X, and Model 3 electric cars. In 2017, it became the most valuable car company in the US. Tesla succeeded in making electric vehicles popular by creating an EV with the horsepower and luxury appeal of a sports car, whereas the EVs that came before had suffered from perceptions of lacking power and not being aesthetically appealing.

In 2010, Nissan launched its Leaf hatchback electric car in Japan and the US. Now in its second generation, more than 400,000 Nissan Leaf units have sold globally as of March 2019, making it the best-selling highway-capable electric car to date. Other car manufacturers in both the mid-range and luxury markets soon followed suit with their own EVs. Examples include Hyundai's Kona and Ioniq, VW's e-Golf and e-Up, Kia's E-Niro, GM's Chevy Bolt, BMW's i3, Renault's Zoe, Smart's Fortwo, Jaguar's I-Pace, Audi's e-Tron, Mercedes-Banz's EQC, the Nio EP9 and the forthcoming Porsche Taycan — among many others.

In the first quarter of 2019, Tesla's global sales (63,019) surpassed those of Porsche (55,700) and Jaguar (49,296) for the third quarter in a row.

**Globally, there are around
5.3 million light-duty all-
electric and plug-in hybrid
vehicles in use as
of December 2018.**

While EV sales are steadily growing around the world, China in particular presents massive demand for NEVs — new-energy vehicles — due to its ongoing battle with air pollution. The Chinese government has offered significant incentives for purchasing electric vehicles, offering manufacturers tax subsidies that allow them to lower their prices, making them more appealing to buyers. In this market, Tesla is small fry, with healthy competition from local manufacturers like BAIC, Changan, Chery and BYD, among others. Tencent-backed Chinese EV startup NIO seemed poised to flood the market with its ES8 SUV, going public on the New York Stock Exchange in September 2018. However, the young company has been plagued by setbacks. In March 2019, NIO announced that plans to open its first factory had been parked, and in June, the company issued a recall of nearly 5,000 of its SUVs following numerous reports of battery fires.

Range anxiety — the fear of running out of charge while driving — remains a concern for many consumers. As a result, a number of initiatives are being implemented to assuage drivers' fears of running out of charge and getting stranded with a flat car battery.

In January 2019, General Motors announced that it is collaborating with charging networks EVgo, ChargePoint and Greenlots to gather data from companies and relay them through a new version of its myChevrolet app. This allows Bolt drivers to access real-time information about things like charging station health — to report whether a charging station is working, available and compatible with a Bolt EV — thus helping drivers to locate the best charging station before or during a trip. This service is currently integrated with more than 31,000 charging stations across the US. Also in January 2019, Tesla launched a portable wall connector with a 14-50 plug that can be connected to a normal household outlet for EV charging. At \$500, the charging device eases the range anxiety of Tesla owners, as they can carry one in their glovebox and not worry about running out of battery.

CHALLENGES

While better battery technology and widespread charging stations have helped to improve the feasibility of electric vehicles, range anxiety is still a big concern among many people.

OPPORTUNITIES

Brands in the electric vehicle space face a unique opportunity for the automotive space in that their product appeals to environmentally conscious consumers, and moreover, is unburdened by carbon emissions tariffs faced by ICE manufacturers. Through strategic collaborations, there is room for EV brands to expand charging networks and experiment with solutions such as multi-functional charging spaces or wireless charging infrastructure. Additionally, as battery technology improves, EVs will gain greater range and power, and lose their former reputation of having low horsepower, making them likely to appeal to even the most staunch petrol heads.

5

AUTOMOTIVE RETAIL **DISRUPTED**

Up to **half** of UK car dealerships **will close** by 2025.

The shift towards digital channels and direct sales models in the automotive industry could take traditional dealerships out of the equation or completely change their functional models. While this may seem to be a difficult time for dealership networks, it presents an opportunity for them to innovate to play varying roles in the future of the mobility sector. This change is being driven by the fact that subscription services such as Audi's Audi Select and Core Collection are rapidly gaining popularity, disrupting traditional ownership models.

Additionally, buyers are becoming more inclined towards researching online than at a dealership before they purchase a car, causing many dealerships to move away from a hard-sale approach, turning dealerships into welcoming, multi-functional spaces where consumers can socialise and explore different models without feeling pressured to buy.

As a growing number of car companies introduce electric vehicles and subscription services, the role of dealerships may change even more, due in part to changing after-sales models. For instance, with the rise of AI integration and telematics, services and repairs will increasingly be conducted pre-emptively due to vehicles monitoring their own performance and performing diagnostics to detect trouble before it becomes serious. Atlanta-based dealership network Cox Automotive turned to vehicle subscription services in 2017 as an answer to the changing automotive demands, offering flexible car subscription solution and covering insurance and maintenance as part of the programme.

In October 2018, Volkswagen made a new retail agreement with its European dealer network that lets the automaker build a more direct link with its consumers. The deal includes revenue-sharing arrangements and eases infrastructure demands to help dealerships remain profitable. This is particularly directed towards the sales of electric vehicles that sees less business from servicing.

CHALLENGES

How can auto dealerships remain relevant in a world in which the role of the dealership is rapidly changing?

OPPORTUNITIES

Instead of waiting for startups to bridge the gap between consumers and the services they want, companies in the automotive industry should waste no time in innovating around the changing needs and desires of consumers.

6

THE CHANGING FACE OF CONSUMER ENGAGEMENT

Advertising and engaging with customers have come a long way from traditional print ads, billboards and TV and radio spots. These days, brands can reach their audiences directly through the internet and even engage them in conversations through social media platforms.

US adults spent an average of three hours and 48 minutes per day on computers, tablets and smartphones in the first quarter of 2018, of which 62% was attributed to app/web browsing on smartphones.

87% of shoppers begin their product searches on digital channels, according to 2018 research by Salesforce and Publicis Sapient. This indicates that the most active group of consumers are engaged with media and technology for a significant portion of their daily lives. As a direct consequence, advertising has followed the consumer, allowing brands to reach them more effectively. Product reviews, ratings, comments, and discussion forums give consumers greater access to information about the products they are considering purchasing. Additionally, the convenience of apps has made consumers more reliant on them in their everyday lives, making these a direct and reliable means for brands to interact with them. In response to all these shifts, smart brands are embracing digital media including smartphone apps in order to create additional consumer touchpoints and improve their experience of the brand through consumer-centric offerings.

Tesla in particular is shunning traditional advertisements and even showrooms to save costs and reach its goal of selling Model 3 cars at \$35,000. The company is shifting its worldwide sales model to 'online only', making it possible to purchase a Tesla in the US in the space of about one minute, using a phone. Cars purchased can be returned within seven days or 1,000 miles for a full refund, removing the need for test drives prior to purchase. The company is continuing direct sales of cars despite facing dealership disputes in several US states due to local laws that prohibit direct manufacturer auto sales by franchise laws, requiring new cars to be sold only by independent dealers.

In the luxury car cohort, consumers seek exclusive, premium experiences and look for a connection with the brand and want to be a part of the family or 'tribe' when buying a car. To speak to this need, German high-performance sports car maker Porsche launched an app dubbed Porsche 360+ in December 2018, which grants users access to exclusive experiences and support from certified partners. The programme allows users to access custom travel plans, sold-out concert tickets, and find gifts on short notice when subscribed at a membership of EUR €99 per month.

CHALLENGES

How can automotive companies take advantage of the numerous communication channels available to capture and hold the attention of consumers?

OPPORTUNITIES

Given the multitude of consumer touchpoints now available, there is an opportunity for brands to foster lasting relationships with their customers.

These are just a few of the opportunities emerging in the automotive industry. To find out more about how this industry is transforming and how your company can take advantage of these shifts, contact Lacuna Innovation. Our innovation experts can help you to identify unmet consumer needs and opportunities and help you map a path to implementation.

ABOUT LACUNA

Lacuna Innovation is a boutique consultancy that helps global organisations to sustainably innovate new products, services and business models by combining trend, insight and commercial expertise in one place. We identify new growth opportunities, immerse ourselves in markets and build in-house innovation capabilities to achieve lasting impact.

Harnessing an environment of tangible tech and creative collaborations, we can help you bring identified opportunities and concepts to life through experimentation and prototyping. With offices in Cape Town, Nepal and Germany, we have global recognition, credibility and reach, which allows us to be at the forefront of Front-end Innovation (FEI).

We are innovation architects in the business of building tangible and sustainable futures. We work with companies to facilitate their innovation efforts, using our proprietary innovation methodology.

We are not a branding or advertising agency. We seek opportunities for our clients to ensure that they remain competitively innovative. We identify and monitor trends that impact our clients' businesses, and assist them in identifying innovation opportunities to be pursued through focused research, a series of workshops, and a unique understanding of the unmet needs of consumers. Our proactive approach to FEI allows us to move beyond concept development to developing Proof-of-Concept design, prototyping and ultimately, commercialisation.

To find out how we can help you, reach us at hello@the-lacuna.com

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