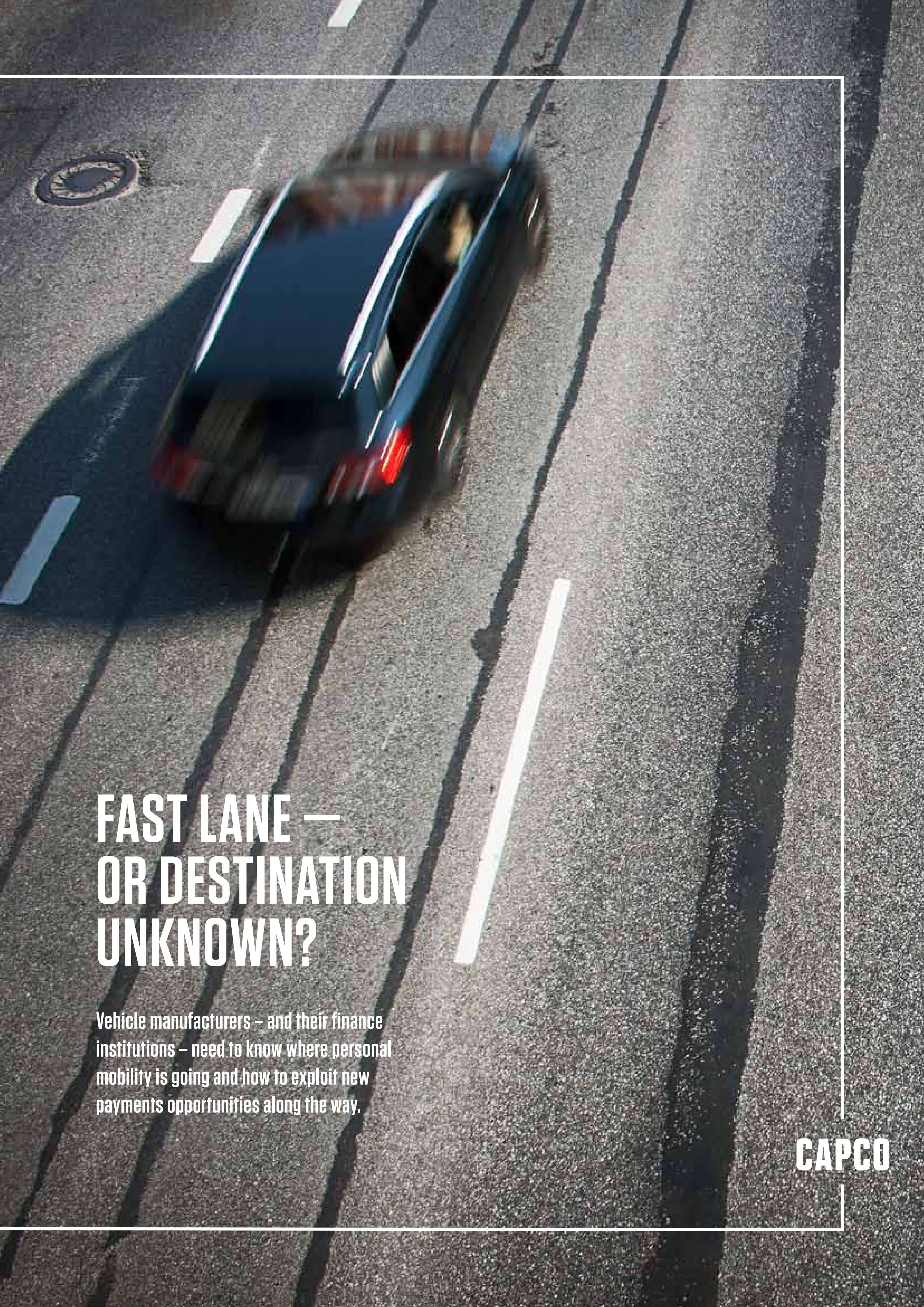


FAST LANE — OR DESTINATION UNKNOWN?

Vehicle manufacturers – and their finance institutions – need to know where personal mobility is going and how to exploit new payments opportunities along the way.

CAPCO

THE GREAT MOBILITY SHIFT?

From point to point, to point of sale.

Big moves in the ways people get around

The business of getting around is changing, fundamentally and fast, because of three big trends in personal mobility. They are deep and disruptive. And they are as potentially profitable for vehicle manufacturers – and their finance operations – as the move from fixed line telephony to smart phones in the communications industry. Connected car, mobility-as-a-service (MaaS) and autonomous (driverless) car offer vast opportunities for new and increased revenues. The physical process of getting from point A to point B is rapidly transforming, into a whole new point of sale. But to understand – and exploit – the opportunities, we first need to understand those key trends.

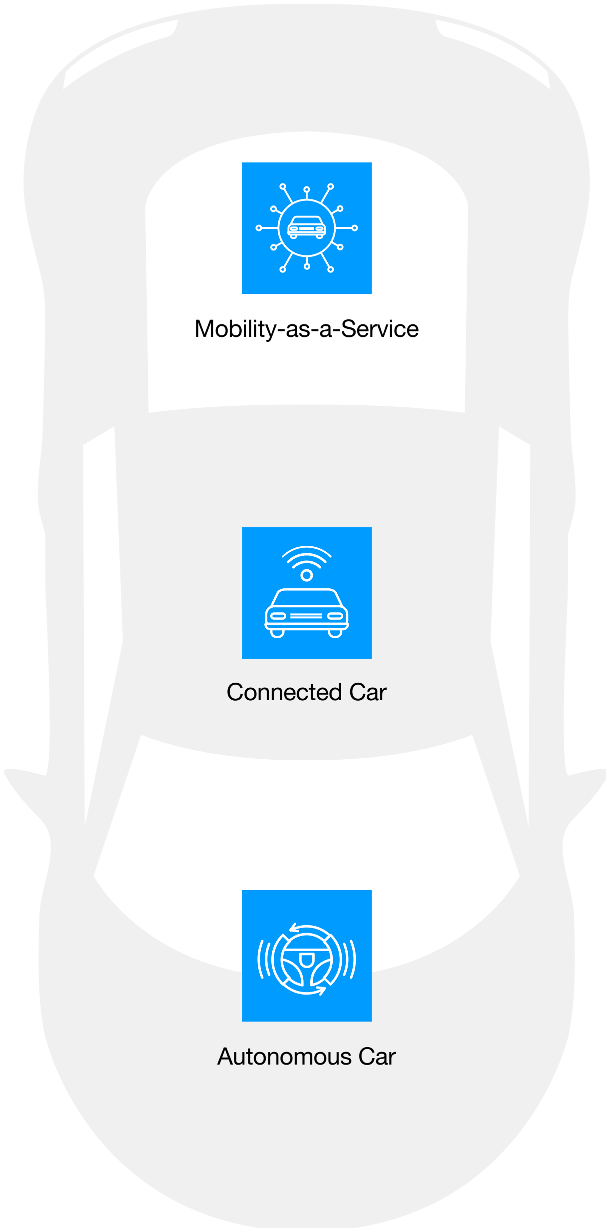
Three trends are driving the direction of mobility

MaaS (present): Fixed timetables and restrictions on mobility are out. Affordable, anytime, anywhere movement is in. Everybody can enjoy single point of contact with multiple transportation options and access channels. And they do not have to own a car to own their journey.

Connected Car (present): The connected car is transforming the automobile into a 'smartphone on wheels'. This is the ultimate mobile point of sale and it is going to be huge.

Autonomous Car (near future): Autonomous cars – machines at the controls – will make personal mobility even more flexible and affordable. And hands off the steering wheel means the same hands can now be on a whole range of mobile devices instead: vastly increasing data consumption, generating huge amounts of mobile consumer data, and creating a whole new market for sales of mobile services.

Crash test dummies: What impact will the key mobility trends have on the old certainties? The reality is that, within just a few years, consumers will challenge and discard old assumptions about what you 'have' to do to be mobile, and what a journey 'must' involve. Everything will change on the road ahead – from thinking it is necessary to own a car to even believing your vehicle has to have a driver.



Vehicle manufacturers, such as Ford and Volkswagen, have announced their intention to become mobility companies that offer new services alongside the established core business of manufacturing vehicles.

Source: Centre for Automotive Research[1]

Impact of mobility-as-a-service:
Owning your journey does not mean you have to own a car.

The absurdity of our century-old, ad hoc approach to mobility is captured in one statistic: The utilization rate of automobiles in the U.S. is about 5%.

Source: Wall Street Journal[2]

Yesterday, car buyers paid for 100% of owning a vehicle that they typically used for just 5 to 10% of the time. Tomorrow, mobility-as-a-service will mean the end of this 90% wastage. Car-sharing was the first move away from full ownership. Manufacturers and other companies developed car-sharing products and services that have been joined by ride-share options – vehicle with driver included – with Uber taking the global lead.

Today's car- and ride-sharing platforms use the connected car functionality for fleet management, and just-in-time payment infrastructure to assure a seamless booking and payment experience. As their uptake grows worldwide, the need to buy or lease a car can only diminish.

According to Dan Ammann, General Motors President, there are five or six million people globallly that are already using a sharing-based model for transportation and that number will grow four or fivefold before the end of the decade[3].

Impact of the connected car:
Real connectivity means never going offline.

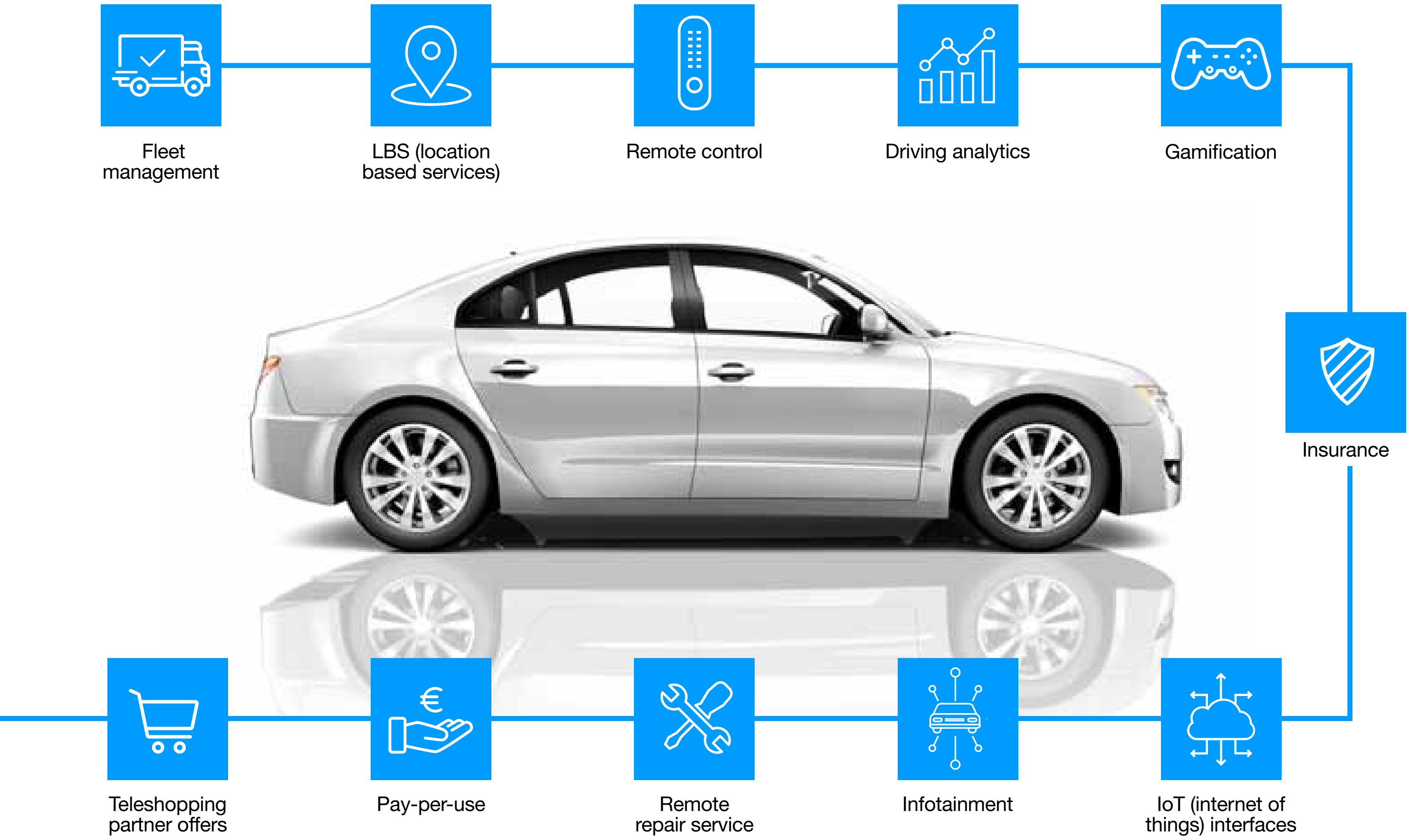
Connected car hardware and software will bring $152 billion in 2020 globally, with driver assistance systems such as self-parking becoming more common and generating substantial revenue for car manufacturers.

Source: Business Insider[4]

Manufacturers are in a race towards ultimate connectivity, with new developments such as Mercedes Me[5] and BMW Connected Drive[6] showing the pace of progress in car connectivity.

Connected cars create vast opportunities for raising brand profile and loyalty, as well as creating new revenue streams from paid-for services. Connectivity is included as standard on today's production lines, with upgrades feasible for cars already on the road.

Connected car use cases



By 2019, usage based insurance enabled by the Internet of Things will account for at least 15% of the global vehicle insurance market.

Source: IDC FutureScape[7]

Impact of the autonomous car:
Hands-free boosts paid-for services.

Shipments of automous cars are expected to top 180,000 by 2020.

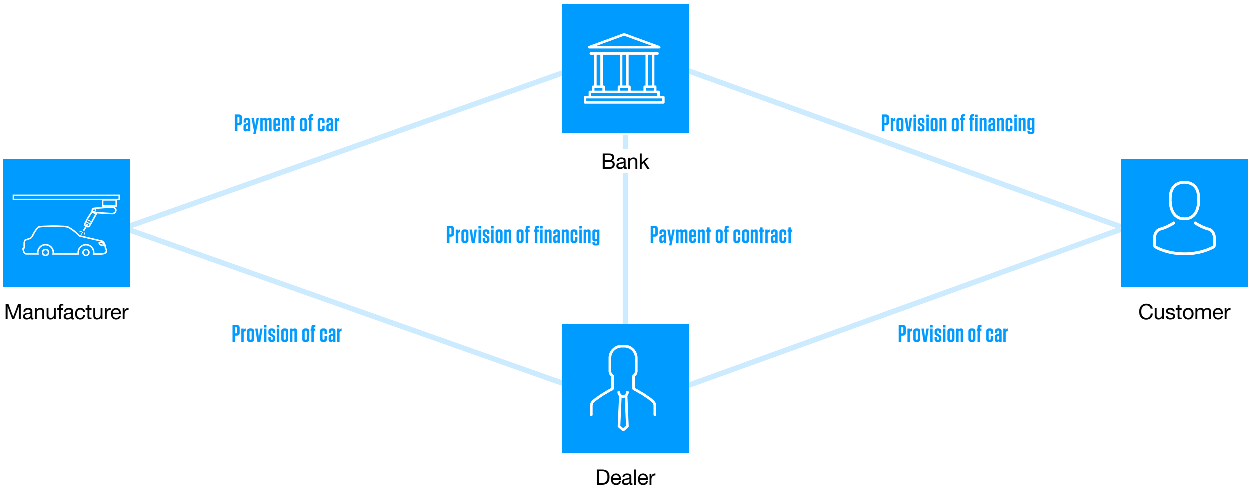
Source: Business Insider[4]

From 2018, autonomous driving features are set to become standard on-board equipment, with full availability of self-driving cars as early as 2020[4]. This will mean increased media consumption, on journeys where not having to concentrate on the windscreen means lots more time for the small screen.

TODAY AUTOMOTIVE BANKING HAS NO CHOICE

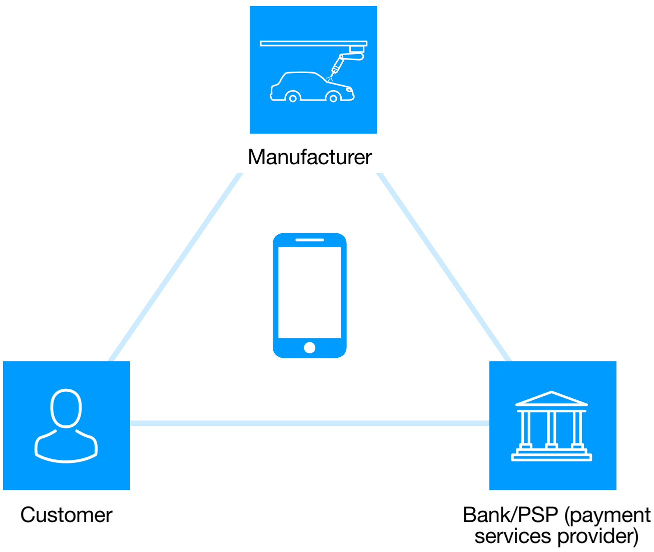
Exploiting new mobility market opportunities means delivering new services, monetized through innovative payments processing capabilities.

Captives are in a good place today, positioned at key touchpoints between car manufacturers and dealers, and between dealers and customers (see exhibit below).



In Germany, captives command an existing market share of 51% of retail financial services[8]. Going forward, they will be well positioned to gain a big share of a new payment streams market, based on sales of mobility related products. But this will only happen with the right business models and technology infrastructure in place.

So there is no room for complacency. In spite of their current strengths, captives will need to overcome a number of major challenges, to realize their full commercial potential in a new market landscape. If they do not, the alternative is loss of their central market role (see exhibit on the right), or even disintermediation.



For captives, stress testing is just beginning

The stress factors involved in the new mobility market - instant payments and very high volume transactions - will be bigger than the current payments platforms, systems architectures and processes can handle. Big scale digitization readiness will also be needed to meet customer expectations. Rival innovators are not going to wait around for the captives to play catch-up, so competition will be intense. And all of this will take place in a market where it is imperative to show profitable growth from mobility-related digital services.

The future is approaching fast. It will be high speed, with payments in real time

The payments that captives deal with today are as traditional as a 1950s family sedan: debit and credit notes, monthly instalments for finance and leasing, down payments, special payments and deposits. The pace is relaxed and the route is predictable: standard payments typically twice a day, aligned with respective cut-off times; urgent and treasury payments on request. This is batch-driven business, with 'urgency' defined as TARGET2[9] calendar days.

Exploiting tomorrow's opportunities will demand a rapid change of gear and a move to the overtaking lane. Fixed payment models will need to become flexible, accommodating pay-as-you-drive and pay-per-use for specific car features such as 4-wheel drive. Easy access to – and ease of payment for – mobility related services will be crucial. As a result, captives will have to change vehicles. Their fast, nimble new workhorses will need to cover the tough ground of high volume, transaction-based business, made possible by real-time payments processing. And it is clear what kind of technology will have to be under the hood. Making all these mobility services innovations functional, revenue generating and profitable will demand nothing less than an open payments platform.

New business models for the new mobility

Car manufacturers are setting up specialist subsidiaries or whole new business units to provide mobility related services. In Germany, for example, we have seen the emergence of Daimler Mobility Services GmbH, Moia GmbH - a company under the Volkswagen umbrella, and BMW i Ventures, funding innovation through direct investment.

How are manufacturers transforming payments potential into strategic revenue?

Some car manufacturers handle payments for connected services in-house. Daimler Financial Services has established Mercedes Pay – as a dedicated payment services provider – through the purchase of PayCash in January 2017. To develop a global payments processing capabilty for handling car parking charges, Volkswagen Financial Services acquired Sunhill in 2015 and PayByPhone in 2017[10].

> **"Captives will need to support a high volume, transaction-based business model, made possible by real-time processing of payments."**

MOBILITY, CONNECTIVITY, PAYMENTS:

How can automotive finance providers bring it all together?

Shifting from asset to transaction-based business requires a great deal of change management effort, created by the need to update the organization, its processes and systems.

If the customer does not own the car, how do you 'own' the customer?

Today's core business will not disappear overnight and traditional payments will continue to support captives' traditional revenue streams. But marketing and monetizing mobility related services will soon become as important as selling and financing automobiles. The car itself will be the point of sale. And the more of a connected experience each vehicle offers, the more possibilities it will create to realize significant revenues.

Breaking down the challenge

Effectively exploiting these possibilities will demand real-time, 24/7 processing of payments for services supplied on a credit or debit basis. This will make for a challenging combination of batch and real time business. For automotive finance organizations bringing it all together – mobility, connectivity and payments – requires access to all the competencies needed for broad scale implementation. They will also need specific capability to succeed in these important areas:

- Car-sharing innovations
- Payment services enablement
- In-car entertainment and infotainment
- Insurance services
- Situation-based, geo-location-enabled services

Key stages on the journey to a new, mobility-derived revenue capability must be understood and addressed. These are explored in the following sections.

Business architecture

A new business model demands a new business architecture. Developing it successfully requires focus on the following core issues:

- Identification of status/readiness for provision of mobility services
- Evaluation and definition of strategy
- Design of potential solutions
- Specification of functional requirements

Payments: Making mobility pay

To make mobility pay, automotive finance providers need to combine informed strategic vision with deep and proven technical competence in the payments space. Delivery expertise will need to include mobile payments and payments platforms.

If they do not have the necessary skills and experience in-house, what should organizations be looking for externally?

Automotive industry exposure: Knowing the road

The external resource needs current and hands-on industry experience. They should already be consulting regularly with captive banks on a range of mobility topics, demonstrably helping them develop sustainable mobility strategies. They should also be part of a rich network of experts and stakeholders in captive banking, payments sector best practices, and mobile solutions development.

> **"The car itself will be the point of sale. And the more of a connected experience each vehicle offers, the more possibilities it will create to realize significant revenues."**

Fintech ecosystem: The engine of payments innovation

Successfully developing seamless service delivery and payments solutions means involving a range of specialist financial technology players – fintechs. The chosen external consulting resource should have significant experience of working with fintechs, alongside good knowledge of a range of players in the fintech community. Working in collaboration with fintechs, a high quality external resource will provide:

- Identification of suitable, experienced fintechs for solution module development and implementation
- Vendor management
- Intermediary services liaising between client and fintech

Full implementation competence: Bringing it all together

The complete development cycle runs from specification and design of the product to end-to-end implementation and testing. Again, if there is no specific internal expertise, the organization will require experienced managers to fulfil the roles of project and program leaders. Key project success factors will include:

- Full support through the project implementation phase
- Implementation of new organizational structure and processes
- Test management, specification of test scenarios and identification of test requirements
- Implementation plan monitoring

CONCLUSION

Market challenges and responses: Time to hit the gas pedal!

Manufacturers do recognize that personal mobility is transforming and they are taking steps to boost innovation and secure customer loyalty. But the real shift needs to start with a cultural realization: the rules will never stop changing and response to change has to accelerate.

In a recent report, Centre for Automotive Research conculdes that “the most important impact that new mobility services will have on the automotive industry will not be on the volume of vehicle sales, but rather it will be on how customers interact with vehicles, their expectation of vehicles, and their use of these vehicles[1].”

What is the commercial incentive?

Creating a rich and rewarding mobility-related services ecosystem is attractive to consumers. It also binds them to the automotive brand; especially when the alternative is a costly decision to change to a competing manufacturer. Providing a constantly evolving set of reasons for loyalty drives up customer retention and re-purchase.

Offering human-centered services creates a virtuous circle, with more behavior-related data available to inform development of the next wave of innovative services. And developing increasingly connected cars drives both possibilities and demand for new kinds of mobility-as-a-service or situation based offers.

On-demand mobility services are a way to generate ongoing income and to engage more with customers more frequently than just through a vehicle sale every five to ten years.

Source: Center for Automotive Research[1]

And what are the technology demands?

Profit from ‘anytime, anywhere’ mobility means always keeping a step ahead of continuously evolving consumer needs. This demands technology and infrastructure that can cope with a range of expectations, from real-time processing of micropayments, to situation-specific services that are concieved today and ready to be rolled out in the near future.

So where will the new mobility take us?

Over time, increased use of car sharing and new pay-as-you-go service models will lead to a change in the consumer-car relationship; perhaps to a total redefinition. But the great shift, from owning to using cars as part of a new mobility paradigm, is in no way a pure threat. It is certain that multiple new opportunities will emerge. And for the institutions that are capable of exploiting them, the road ahead is exciting and rewarding.

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[1] The Impact of New Mobility Services on the Automotive Industry report, Center for Automotive Research (CAR), 2016

[2] marketwatch.com/story/get-ready-to-share-not-just-the-road-but-the-car-2015-12-14

[3] fortune.com/2016/01/21/gm-car-sharing-maven

[4] uk.businessinsider.com/growth-in-the-connected-car-market

[5] mercedes-benz.com/de/mercedes-me/konnektivitaet/

[6] bmw-connecteddrive.de

[7] IDC FutureScape: Worldwide Financial Services 2017 Predictions, 2016

[8] AKA, Automobilbanken-Studie, 2016

[9] TARGET2 is the real-time gross settlement (RTGS) system owned and operated by the Eurosystem

[10] Companies' websites

ABOUT CAPCO

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