CHOOSING A MODEL

The Strategic Choices
For OEMs Created
By On Demand Mobility
Automotive OEMs currently occupy a well-understood part of the value chain.

They operate a clear ownership model – selling the vehicle quickly.

OEMs need to choose how they wish to participate in on-demand mobility.
– Their natural inclination will be to have it all, this seems unrealistic.
  » Apple, Vodafone and Carphone Warehouse are separate for a reason.

On-demand mobility changes how the value chain will work and be rewarded.
– Lessons can be learned from other travel as a service models (e.g. air travel).

Much of the value lies in areas where OEMs have little experience.

Support services for on-demand will create white spaces to be exploited.
Today, most OEMs control Making, share Selling and stay away from Running, apart from supplying parts that they make.
TODAY’S VALUE CHAIN

MAKING THE VEHICLE
- Designing the vehicle
- Manufacturing the key components (non-commodities)
- Assembling the vehicle

SELLING THE VEHICLE
- Sale and delivery of new vehicle to the consumer
- Marketing of the brand and vehicle
- Financing of the vehicle purchase
- Resale of used vehicles

RUNNING THE VEHICLE
- Providing fuel
- Insurance to cover vehicle and driver liability
- Servicing and repair of the vehicle
- Providing a storage location when vehicle is not in use
### WHAT DOES THE OEM DO TODAY?

#### MAKING THE VEHICLE

- **Overall Design**
  - OEMs retain sizable engineering teams and
  - Substantial R&D spending and IP ownership by OEMs

- **Make Parts**
  - OEMs typically make stamped panels and key engine parts in-house
  - Some hold shares in key suppliers

- **Assembly**
  - All volume OEMs have their own factories
  - Few contract factories worldwide (e.g. Magna)
  - Substantial Capital spending by OEMs

#### SELLING THE VEHICLE

- **New Sale**
  - OEMs run national and brand-wide advertising
  - Dealers run local advertising

- **Marketing**
  - OEMs run national and brand-wide advertising
  - Dealers run local advertising

- **Financing**
  - Most OEMs have their own (“captive”) finance companies to provide funding for retail buyers
  - Captives also fund dealers buying from the OEM

#### RUNNING THE VEHICLE

- **Re-sale**
  - Provide Fuel
  - Insurance
  - Servicing & Repair
  - Provide Storage
WHO DOES WHAT IN THE VALUE CHAIN?

**MAKING THE VEHICLE**
- Overall Design: OEM
- Make Parts: OEM
- Assembly: Tier 1 Suppliers

**SELLING THE VEHICLE**
- New Sale: OEM
- Marketing: OEM
- Financing: OEM
- Re-sale: Dealers

**RUNNING THE VEHICLE**
- Provide Fuel: Big Oil
- Insurance: Insurers
- Servicing & Repair: Dealers
- Provide Storage: Vehicle Owner

Key:
- OEM
- OEM Partner
- 3rd Party
- Asset User
How does that compare to other industries?
Generally, manufacturers have little involvement in selling and running
• Soft drinks company (e.g. Coca-Cola)
  – Controls design (recipe) and marketing but does not always run the manufacturing (bottling)
  – Sold through a wide variety of shops, does not control the point of sale
  – Less complex value chain than automotive -- drink is immediately consumed

• Sports wear (e.g. Nike)
  – Controls design and branding but uses contract manufacturer
  – Some direct sales (mainly online), sold through a wide variety of shops
  – Less complex value chain than automotive -- garment is disposed of rather than undergoing significant maintenance (unless a valuable collectors item)
DIFFERENT VALUE CHAINS

- **Smart Phones (e.g. Apple)**
  - Controls design and branding but uses a contract manufacturer
  - Normally sold by network operator -- phone price is frequently bundled with running costs (network connection charges) and sometimes insurance

- **Washing machines (e.g. Whirlpool)**
  - Controls design but may use a contract manufacturer
  - Sold by 3rd party retailers, who do most of the advertising and offer finance
  - Commodities to run the machine supplied by shops and utilities

- **Luxury handbags (e.g. Louis Vuitton)**
  - May control almost the entire value chain from design through to sale (sometimes in a concession), no financing (don’t touch what you can’t afford)
  - Complete control over brand experience -- reinforces price premium
Outside of luxury goods, few businesses try to do everything
## COMPARISON TO OTHER INDUSTRIES...

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**Key:**
- **Brand Owner**
- **Key Partner**
- **3rd Party**
- **Asset User**
On-demand mobility brings unfamiliar challenges...
NEW CHALLENGES OF ON-DEMAND

- On-demand is the sale of a service rather than a physical product
  - Per mile travel (maybe via subscription) without custody of the asset

- The customer pays for the entire service in a single transaction
  - Per mile cost covers depreciation, fuel, infrastructure and staffing
  - Similar in concept to mobile phones

- The mobile phone industry has different specialisations
  - Phone manufacturer (Apple), network operator (Vodafone), network infrastructure manufacturer (Cisco) and retailer (Carphone Warehouse)
  - In on-demand mobility, OEMs are positioning themselves to be both manufacturer and operator (unclear on infrastructure provider)
Here is how OEMs are setting out to work in on-demand mobility...
OEM APPROACH TO ON DEMAND MOBILITY

MAKING THE VEHICLE
- Overall Design
- Make Parts
- Assembly
- Service Provider
- Marketing
- Financing
- Re-sale
- Provide Fuel
- Insurance
- Servicing & Repair
- Provide Storage

SELLING THE SERVICE
- OEM
- OEM
- OEM
- OEM
- OEM
- TBD
- TBD
- TBD

RUNNING THE SERVICE
- Tier 1 Suppliers
- Ride Hailing Firm
- Ride Hailing Firm
- OEM to customer
- OEM to customer
- TBD
- 3rd party to OEM
- 3rd party reinsurer

Key: OEM, OEM Partner, 3rd Party, Unclear
Note: OEM is asset user
• Unclear what the resale market will be
  – If these vehicles are industrial assets they may not be suitable for retail customers, even on a second hand basis
  – For instance, rare to install ex-laundrette washing machines at home

• Unclear who will carry out servicing
  – OEM fleets could potentially use franchised dealerships
  – Likely inefficient for a large fleet to outsource in such a fragmented way

• Unclear where the vehicle depot will be and who will own it
  – Substantial difference between peak and off-peak demand
  – Facilities similar to bus garages may be required

• Impact of autonomy -- vehicle can drive itself to low cost servicing / depot location
• Reduced new car sales volumes
  – Mobility vehicle is a business to business purchase so even at constant sales volume, fewer vehicles would be sold by dealers

• Reduced re-sale volume
  – As industrial assets, mobility vehicles may be unsuitable for private owners
  – Existing mobility programs already showing customers are migrating from used car ownership more quickly than from new car ownership

• Reduced servicing demand
  – Fewer cars in private hands
  – Mobility fleet owners may use large-scale servicing to reduce costs

TROUBLE FOR DEALERS...
Are the OEMs trying to do too much?
Can we compare to other sectors?
Question: What do we see in the commercial air travel value chain?
Answer: Aeroplane OEMs are in less of the value chain than automotive OEMs are aiming for
• Manufacturers are separate from service providers
  – Might not be precedent setting (at one time, Boeing owned United Airlines)
  – **Implication:** Automotive OEMs would be trying to control more of the value chain that aircraft manufacturers have proved capable of

• Design is highly specialised -- airframe is discrete from engine and cabin fit
  – **Implication:** Vehicle manufacturers might do less than they do today

• Branding matters (but not equally) -- airline, airport, travel agent, aeroplane
  – Airbus and Boeing brand power is similar but both are superior to Tupolev
  – **Implication:** OEM brands still have value, but less differentiation than today

• Long history of state intervention in both airlines and manufacturers
Question:
Do other travel value chains show a broader role for the manufacturer?
Answer: Not really. Across industry sectors, manufacturers stick to manufacturing and servicing.
### DIFFERENT TRAVEL VALUE CHAIN

#### MAKING THE VEHICLE
- Overall Design
- Make Parts
- Assembly

#### SELLING THE SERVICE
- Service Provider
- Marketing
- Financing
- Re-sale

#### RUNNING THE SERVICE
- Provide Fuel
- Insurance
- Servicing & Repair
- Facilities

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**Memo:** Automotive OEM Approach To On Demand

**Key:**
- OEM
- OEM Partner
- 3rd Party
- Asset User

See Appendix for detailed value streams.
So, the vehicle business is already an outlier.

Other travel industries have a narrower role for the manufacturer.
Question:
Can automotive OEMs take a wide role in on-demand mobility?
Answer:
Unlikely. The new areas in mobility have little to do with existing OEM competencies.
NEW COMPETENCIES REQUIRED

- Software & App Development
- Demand Modelling
- E-Commerce
- Local Government Liaison
- Customer Relationships
- Fleet Management
Software -- Vehicle software is not customer-facing, often written by suppliers

Demand Modelling -- Capacity utilisation is not an industry strength historically

E-Commerce -- OEMs still regard it as news when they sell cars online

Local Government Liaison -- Plenty of lobbying expertise, licencing is new

Customer Relationships -- Dealer-led today, some experience from financing co’s

Fleet Management -- Coca Cola knows more about running fleets than any OEM
Let’s summarise the new challenges of on-demand mobility to the traditional OEM business model...
It is abnormal for the manufacturer to be the service provider.

Mass transit schemes use industrial assets unsuitable for retail customers (even city bike schemes).

Governments interfere in transport systems for civic benefits and consumer protection.
IMPLICATIONS FOR THE OEMS

Manufacturer is not the service provider
- Present trial schemes cover a wide scope, enabling OEMs to learn about the value chain
- Once the model is established companies will have to choose where they play
- They will have to spin off manufacturer or service provider

Vehicle is an industrial asset
- Industrial asset may be quite different from retail vehicle
- More expensive upfront but longer lasting, cheaper to run
- Brand value is less important
- Overall Industry will be smaller without a significant increase in miles travelled

Government likely to interfere in the market
- Airline and train industries commonly have significant state direction
- Bus and taxi companies often subject to municipal and regional licensing & control
- Enhanced regulatory oversight correlates with monopolistic potential
There is a huge reduction in manufacturing footprint coming
- Lower demand as mobility vehicles last longer and have better utilisation
- At the same time, “Industry 4.0” productivity measures will reduce manning
- Restructuring will become a key strategic competency
- Job losses will be heavily resisted by the same governments OEMs want favourable treatment from in emissions control and mobility licencing

OEM-owned mobility providers may struggle if limited to the owner’s products
- Competitive providers need low cost vehicles that the customer likes
- OEM-owned providers will suffer if the owner has important portfolio gaps
- Vehicle production business will be hindered if a smash-hit product can only be sold to the captive mobility company
- If these rules are relaxed, OEM owning the provider shows fewer synergies (OEMs largely disposed of rental businesses for the same reasons)
Question: Any good news?
Answer:
There are some areas where on-demand mobility will create new business areas.
WAYS TO SUPPORT ON-DEMAND

Service Provider

Ride Hailing companies already in this space
Very little relationship to existing automotive competences
Maybe not so bad if automotive OEMs miss out here -- in many travel sectors, the service provider is loss-making

Finance Provider

OEMs are very active in retail financing, lots of scope to expand in fleet financing
Competition -- existing vehicle contract hire firms and leasing companies from adjacent industries (e.g. trains and planes)
Scope for "power by the hour" type model

Servicing and Depot

On demand fleets will require servicing and depot infrastructure that does not currently exist
Low-cost mass, predictable servicing -- steady revenue stream
Low cost depot near to population centres -- manage off-peak
In summary...
Automotive OEMs occupy a well-understood part of the value chain, based around selling vehicles quickly to retail or retail-like customers.

On-demand mobility will decrease private ownership and disrupt this model.

OEMs already cover more of the value chain than manufacturers in other sectors and they are unlikely to be able to repeat this with on-demand mobility.

Much of the value in transportation as a service lies in areas where OEMs have little experience (software, consumer relationships, fleet management).

Before the business model matures, OEMs will need to narrow their focus.

Support services for on-demand will create white spaces to be exploited.
APPENDIX
# TRAIN TRAVEL VALUE STREAM

## MAKING THE TRAIN
- Overall Design
- Make Parts
- Assembly

### OEM
- Train Company
- Tier 1 Suppliers
- City / Regional Scheme

### Tier 1 Suppliers

## SELLING THE SERVICE
- Service Provider
- Marketing
- Financing
- Re-sale

### Service Provider
- Train Company
- Travel Agent
- Tourist Office

### Tourist Office

## RUNNING THE SERVICE
- Provide Fuel
- Insurance
- Servicing & Repair
- Facilities

### Provide Fuel
- Very Rare
- Utility Company
- Track Operator

### Train Company
- Insurers (e.g. Lloyds)
- Track Operator
- Service Providers
- Station Operator

### Track Operator

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**Key:**
- OEM
- OEM Partner
- 3rd Party
- Asset User
- Automotive OEM Aspiration
BUS TRAVEL VALUE STREAM

**MAKING THE BUS**
- Overall Design
- Make Parts
- Assembly

**SELLING THE SERVICE**
- Service Provider
- Marketing
- Financing
- Re-sale

**RUNNING THE SERVICE**
- Provide Fuel
- Insurance
- Servicing & Repair
- Facilities

**Key:**
- OEM
- OEM Partner
- 3rd Party
- Asset User
- Automotive OEM Aspiration