DATA-DRIVEN BUSINESS MODELS IN CONNECTED CAR & BEYOND

Dr. Gabriel Seibert
Managing Director, Accenture Digital

New Mobility World @ IAA 2017
Frankfurt, September 15, 2017
THE MOST VALUABLE COMPANIES OF THE WORLD ARE DATA-DRIVEN...

Traditionally, major industrial companies and banks have constituted the world’s most valuable companies by market capitalization.

Today, five out of ten of the world’s most valuable companies are tech companies that have embraced data-driven business models.

Source: Bloomberg
... AND ARE CLAIMING OEMs CUSTOMER INTERFACE

- **Android Auto**
  Smart driving companion bringing information like suggested destinations, appointments, and weather conditions to the driver.

- **Alexa In-Car integration**
  Voice-controlled, intelligent personal assistant Alexa allowing the user to connect the car with smart home.

- **CarPlay**
  Connectivity solution mirroring iOS interface to car’s infotainment system display.

- **Connected Vehicle Platform**
  Intelligent services in the car, including virtual assistants, business applications, office services and productivity tools.

- **Messenger Integration**
  Integration of Uber in Messenger App for instant booking according to shared location.
OEMs HAVE REALIZED THE THREAT AND ARE READY TO STRIKE BACK WITH DIGITAL SERVICES

Daimler erwartet "hunderte Millionen Euro Umsatz" mit digitalen Diensten

DAIMLER EXPECTS HUNDREDS OF MILLIONS OF TURNOVER WITH DIGITAL SERVICES

Audi: Digitalgeschäfte sollen 2020 die Hälfte des Umsatzes ausmachen

Der Autobauer plant völlig neue Dienstleistungen

BMW: THE GERMAN APPLE

DIGITAL BUSINESSES SHOULD BE HALF OF AUDI'S TURNOVER UNTIL 2020
50% OF REVENUE BY DIGITAL SERVICES IS REALISTIC... BUT NOT BEFORE 2050

Automotive / Mobility-related Revenues
[in Billion Dollar]

<table>
<thead>
<tr>
<th>Year</th>
<th>Carsales</th>
<th>Aftersales</th>
<th>Shared Mobility</th>
<th>Data-driven Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>27</td>
<td>720</td>
<td>381</td>
<td>1.923</td>
</tr>
<tr>
<td>2030</td>
<td>2.750</td>
<td>889</td>
<td>1.200</td>
<td>2.518</td>
</tr>
<tr>
<td>2050</td>
<td>4.000</td>
<td>947</td>
<td></td>
<td>3.770</td>
</tr>
</tbody>
</table>

Car related revenues will decline, digital services will overcompensate

Source: Accenture based on iHS, Allied Market Research, ABIresearch, BlackRock/MCK
WHO WILL SNATCH THE BIGGEST PIECE OF THE PIE - AND HOW WILL THE VALUE NETWORK BE CONFIGURED?

Source: Accenture
APPLE EXAMPLE SHOWS: COMBINE PREMIUM PRODUCT WITH SUPERIOR ECOSYSTEM TO GENERATE PREMIUM PROFITS

Top 3 Smartphone Manufacturers

- **Samsung**: 23.3%
- **Apple**: 14.7%
- **Huawei**: 10%

Global share of total profits [in Percentage]

- **Apple**: 79.20%
- **Samsung**: 14.60%

Revenue by Transaction Fees [in Billion Dollar]

- **Apple**: 21.6
- **Huawei**: 13.2

Source: IDC, The Korea Herold, Medium

---

Samsung sells the most smartphones in the world …

… but Apple grabs 80% of the profit pools…

… with significant revenues from 30% transaction fees
OEMs need to occupy the sweet spot by unlocking the power of an open ecosystem.

Data-driven business models usually require both product and business model innovation, e.g., driverless ride-hailing service.

Innovation can be achieved both on a product and a business model level.

Product innovation describes the relevance of software for your product or service.

Business model innovation aims at rethinking your existing business model focusing on the customer.

Data-driven business models usually require both product and business model innovation, e.g., driverless ride-hailing service.

Premium Product + Premium Ecosystem = LOCK-IN
THERE ARE THREE BASIC TYPES OF DATA DRIVEN BUSINESS MODELS OEMs CAN APPLY

- **Value Added Sources**
  - Open
  - Proprietary

- **Typical channels**
  - 1:1
  - 1:M
  - M:M

- **Dimensions**
  - Nature of data
    - Open
    - Proprietary
  - Purpose
    - Selling to third parties
    - Use for own services
  - Type of transaction
    - B2B
    - B2C
  - Revenue Models
    - Transaction Fee
    - Licensing
    - Subscription
    - Pay per use
    - Freemium (Premium)

- **Sources**
  - Ecosystem data (incl. open innovation/swarm data)
  - Personal data
  - Car data (incl. technical swarm data)

- **Value Added**
  - Data generation
  - Data analysis
  - Outcome-based business models

- **As-a-service**
### The Generic Business Models Can Be Broken Down Into Five Service Domains

<table>
<thead>
<tr>
<th>Harvesting</th>
<th>Mobility Services</th>
<th>Customer Experience</th>
<th>Connected Car Services</th>
<th>Safeguarding</th>
<th>Bottom Line Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As-a-service</td>
<td>Car Pooling</td>
<td>Performance Apps</td>
<td>Customized settings (seating position, radio, etc.)</td>
<td>Driver’s condition monitoring</td>
<td>Product Optimization</td>
</tr>
<tr>
<td></td>
<td>Vehicle Sharing</td>
<td>Gamification</td>
<td>Usage-based insurance Predictive Maintenance Driving style recommendation</td>
<td>(Non-legal) E-Call</td>
<td>Reduction of warranty costs</td>
</tr>
<tr>
<td>As-a-service</td>
<td>E-hailing</td>
<td>Experience apps</td>
<td>Mobile payment Online appointment booking</td>
<td>Road sign recognition and traffic law monitoring</td>
<td>Stock level optimization</td>
</tr>
<tr>
<td>As-a-service</td>
<td>Platooning</td>
<td>Parkingspot Finder</td>
<td>Vehicle search</td>
<td>Driver coaching</td>
<td>Optimization of R&amp;D expenditure</td>
</tr>
<tr>
<td>As-a-service</td>
<td>Experience apps</td>
<td>Real-Time Traffic Information</td>
<td></td>
<td>Anti-theft tracing</td>
<td>Fleet Management</td>
</tr>
</tbody>
</table>

#### Direct Monetization

- Bonus/loyalty schemes
- Companion Apps
- Concierge service
- Infotainment

#### Indirect Monetization

- Car Pooling
- Vehicle Sharing
- E-hailing
- Platooning
- Performance Apps
- Gamification
- Experience apps
- Parkingspot Finder
- Real-Time Traffic Information

#### Bottom Line Savings

- Product Optimization
- Reduction of warranty costs
- Stock level optimization
- Optimization of R&D expenditure
- Fleet Management
WHILE SOME SERVICES WILL GENERATE MOST POTENTIAL, IMPACT ON CX AND BRANDING IS TO BE CONSIDERED

Revenue Potentials
[in Billion Dollar]

<table>
<thead>
<tr>
<th></th>
<th>Mobility Services</th>
<th>Customer Experience</th>
<th>Connected Car Services</th>
<th>Safeguarding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>30</td>
<td>2.8</td>
<td>21.6</td>
<td>2.9</td>
</tr>
<tr>
<td>2030</td>
<td>863</td>
<td>76</td>
<td>197</td>
<td>108</td>
</tr>
<tr>
<td>2050</td>
<td>2.518</td>
<td>355</td>
<td>1.063</td>
<td>505</td>
</tr>
</tbody>
</table>

CAGR: 14.1%

Mobility and Connected Car Services will generate 80%

Source: Accenture based on iHS, Allied Market Research, ABIresearch, BlackRock/MCK
A study jointly initiated by BVDW and Accenture identifies how OEMs will be able to benefit from data-driven business models.

Qualitative Insights

External / Internal Expert Interviews

Understand Status Quo

Data-driven business models & key players in the automotive industry

Derive Trends

Competitive conditions
Opportunities & threats, disruptors
Leverages of the digital market mechanisms

Describe Future Data Business

Different types of data monetization strategies & use cases
How OEMs can tap the full potential out of data
Comparison with data driven models of challengers
What to learn/when to cooperate
ARE DATA-DRIVEN BUSINESS MODELS IN AUTOMOTIVE POISED TO TAKE OFF?
DATA-DRIVEN BUSINESS MODELS: INTERVIEW PARTNERS OF OUR STUDY

Figure: Accenture

- **OEMs**: 7 Experts
  - BMW
  - Mercedes-Benz
  - Volkswagen

- **In Car Integration**: 4 Experts
  - Bosch
  - Cintec

- **Connectivity**: 2 Experts
  - Telefónica

- **IoT Platform**: 1 Expert
  - RIO

- **Eco System**: 2 Experts
  - Flixbus
door2door

- **New Entrant**: 1 Expert
  - Telefónica

- **Independent SMEs**: 8 Experts
  - NEXT

Figure: Accenture

Copyright © 2017 Accenture. All rights reserved.
The most fundamental question is: Are all prerequisites in place?

Are customers willing to share data or pay for services?

Are OEMs equipped with the necessary technology?
FOUNDATION FOR DIGITAL SERVICES IS LAID, TECHNOLOGICAL READINESS YET TO BE INCREASED

Interviewees’ view on ...

WILLINGNESS TO SHARE
- 92% PAY WITH DATA

WILLINGNESS TO PAY
- 84% PAY WITH MONEY

TECHNOLOGICAL READINESS
- 68%

“Customers are willing to share data for services providing: safety and comfort”
“Customers are willing to pay for Safety and Convenience.”
“Customers are willing to pay for In-Car Entertainment.”

“5G infrastructure is missing to boost digital services business.”
“Ultraprecise maps are lacking to realize certain digital services.”

n=25
TODAY, THE FULL POTENTIAL OF STRATEGIES IS NOT USED.
DESPITE EXISTING AWARENESS, OEMs ARE STILL STRUGGLING BEYOND THEIR ORIGINAL HOME TURF

One-off

Revenue models:
- Subscription
- Pay per use
- Transaction fee
- Freemium
- As-a-service

OEMs still too product centric, no substantial ecosystem play yet and lack of digital pricing models
COOPERATION IS KEY.

REACH BEYOND MOBILITY – CONQUER SHARE OF MIND!
MARKETS OUTSIDE MOBILITY ARE BECOMING MORE AND MORE ATTRACTIVE FOR OEMs

Source: Accenture
WE LOVE INNOVATION. DATA-DRIVEN MODELS WILL BOOST YOUR BRAND IMAGE!
HOW MONETIZING DATA CAN IMPACT THE BRAND OF AUTOMOTIVE COMPANIES

- **IMPACT ON BRAND**
  - **LOW**
    - Connected Car Services
    - Mobility Services
  - **HIGH**
    - Customer Experience
    - Safeguarding

- **MONETIZATION POTENTIAL**
  - **LOW**
    - In-car payment
    - “Freemium” Navigation Apps
  - **HIGH**
    - In-car concierge service
    - Car Sharing
    - Drowsiness detection systems

EXAMPLE

- In-car payment
- “Freemium” Navigation Apps
- Car Sharing
- Drowsiness detection systems

Copyright © 2017 Accenture. All rights reserved.
RECOMMENDATIONS DERIVED FROM THE STUDY

CUSTOMERS ARE WILLING TO SHARE DATA
• USE CUSTOMER DATA TO PREPARE FOR FUTURE BUSINESS MODELS
  Make the usage of data collection transparent for customers and show benefits for them.

TRANSFER BRAND INTO DIGITAL SERVICES
• COMBINE EMOTIONS OF PHYSICAL PRODUCTS WITH DATA-DRIVEN EXPERIENCES
  Use services which are owned by OEMs to collect valuable data from customers and prepare for future services.

EMBRACE ECOSYSTEM AND DIGITAL PRICING
• CATCH UP WITH TECH COMPANIES IN ECOSYSTEM VALUE CREATION
  Use collected data and enter new data monetization strategies.

COLLABORATION IS THE KEY TO FUTURE MOBILITY
• IN A FAST-EVOLVING ENVIRONMENT ALSO COMPETITORS ARE GROWING
  Identify areas of improvement and search for the right business partner(s) to gather deep knowledge and fast results.

EXPAND BEYOND MOBILITY
• BECOME RELEVANT IN DIGITAL EVERYDAY LIFE OF YOUR CUSTOMER
  OEMs have to catch up with new entrants and tech companies to get their share in data business.
DISCUSSION

Please get in touch with the initiators of this study to discuss:

Dr. Wolfgang Gründinger
Referent Digitale Transformation BVDW
Phone: +49 30 206218615
E-mail: gruendinger@bvdw.org

Dr. Gabriel Seiberth
Managing Director, Accenture Digital
Phone: +49 9281 9252903
E-mail: gabriel.seiberth@accenture.com