

Neil Abrams

President

ABRAMS CONSULTING GROUP, INC.



Auto Rental
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IN CONJUNCTION WITH
ACRA
AMERICAN CAR RENTAL ASSOCIATION

THE EVOLUTION OF THE PERSONAL MOBILITY INDUSTRY



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IN CONJUNCTION WITH
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AMERICAN CAR RENTAL ASSOCIATION

Then

&

Now

1976

HERTZ

AVIS

NATIONAL

BUDGET

DOLLAR

THRIFTY

ALAMO

ENTERPRISE

AGENCY

SNAPPY

AMERICAN INTERNATIONAL

RENT-A-WRECK

U-SAVE

UGLY DUCKLING

ADVANTAGE

STANDARD

2017

Hertz Group Holdings

Avis Budget Group

Enterprise Holdings

AEZ

FOX

International Franchise Systems

FSNA

*Sixt

*Based in Pullach, Germany

Major Impactors

- **Connectivity**
- **Shared Mobility**
- **Electrification**
- **Autonomous vehicles**
- **The new competitive landscape for personal mobility**

Connectivity

- 1996 - Early functions such as Onstar Safety
- 2001 - Remote diagnostics – mechanical integrity in real time
- 2003 - Digital Network Access
Ex: Turn by turn navigation
- 2016 - High speed telematics – platform for autonomous vehicles

Collaborative Consumption

i.e. The sharing economy

- A social and cultural movement
- An economic force
- An environmental mandate
- Ownership of assets not all it's cracked up to be ... so '90s.

- Examples:

AIR BNB

Clothing Swaps

Zipcar

WeWork

Vanpooling

Left-over.com

- **BOTTOM LINE:** More cars off the road
~ Alarm signals to the OEMs ~

PERSONAL MOBILITY

- Taxi - Black Car / Limo
- Car Rental
- Car Sharing
 - Fleet
 - Peer-to-Peer
- Van Pooling
- Subscription / Clubs
- Ridehailing
- Verizon and other Apps

GROWTH OF MAAS*



Data courtesy of ABI research report, Nov. 2016

***Mobility As A Service**

ELECTRIFICATION

- Government support – Ex: NY State \$2,000 rebate for plug-in – sales up 74% this year
- 10% - 15% of new vehicle sales in U.S. will be battery electric and plug-in hybrid
- Car sharing around the world transitioning to all electric
Ex: Green Commuter, Amsterdam, Singapore
- Multiple all-electric brands over next 5 years
 - BMW
 - Ford
 - Mercedes Benz
 - Renault
 - Tesla
 - VW
 - Volvo
- Issues:
 - * Battery size
 - * Vehicle range on a charge
 - * Charge station infrastructure
- BLOOMBERG – ELECTRIC CARS CAN BECOME THE BIGGEST “DISRUPTION” SINCE THE IPHONE

5 Levels of Autonomy*

I. Driver Assistance

- At times, car can take control (Ex: cruise control; parking assist)

II. Partial Automation

- Hands off wheel, eyes on road
- Car can take over both pedals and wheel (Ex: Tesla's Autopilot – 2014)

III. Conditional Automation

- Hands off wheel, eyes off road – sometimes
- Car can fully take over driving responsibilities when asked – human driver is fallback when asked
- Liability issues begin

*International Society of Automotive Engineers

5 Levels of Autonomy, cont.

IV. High Automation

- Hands off – eyes off – mind off – sometimes
- Can be driven by human, but doesn't ever need to be
- True Self Driving
- Google's WAYMO – operating for a number of years.

V. Full Automation

- Steering wheel optional
- Cab becomes social space
- Full-time – all driving tasks

❖ Enormous impact on way we live, work, travel

Rental Fleet of the Future



Google / WAYMO



BAIDU / Apollo



Continental / CUBE

OEMs

GM

BMW

Ford

Mercedes Benz

Porsche

Group PSA (Opel Peugeot Citroen)

VW

Hyundai

Toyota

Corresponding PM*

Maven

DriveNow/ReachNow/Fair/Skurt

Chariot

car2go/Groove (P2P)/Fair

PassPort

Free 2 Move

Gett

Deal Car

Grab

***PM – Personal Mobility**

WHO ARE THESE GUYS?

THE DISRUPTERS:

Travelcar

Hyre Car

Skurt

Turo

Drivezy

Blue Indy

Drive My Car

Zoomcar (ZAP)

Groove

Clutch

Uber / Lyft

YoYo

Deal Car

Funride

GreenCar

Gig

Green Commuter

Sharemine

Fair

IS THE CLASSIC CAR RENTAL MODEL DEAD?

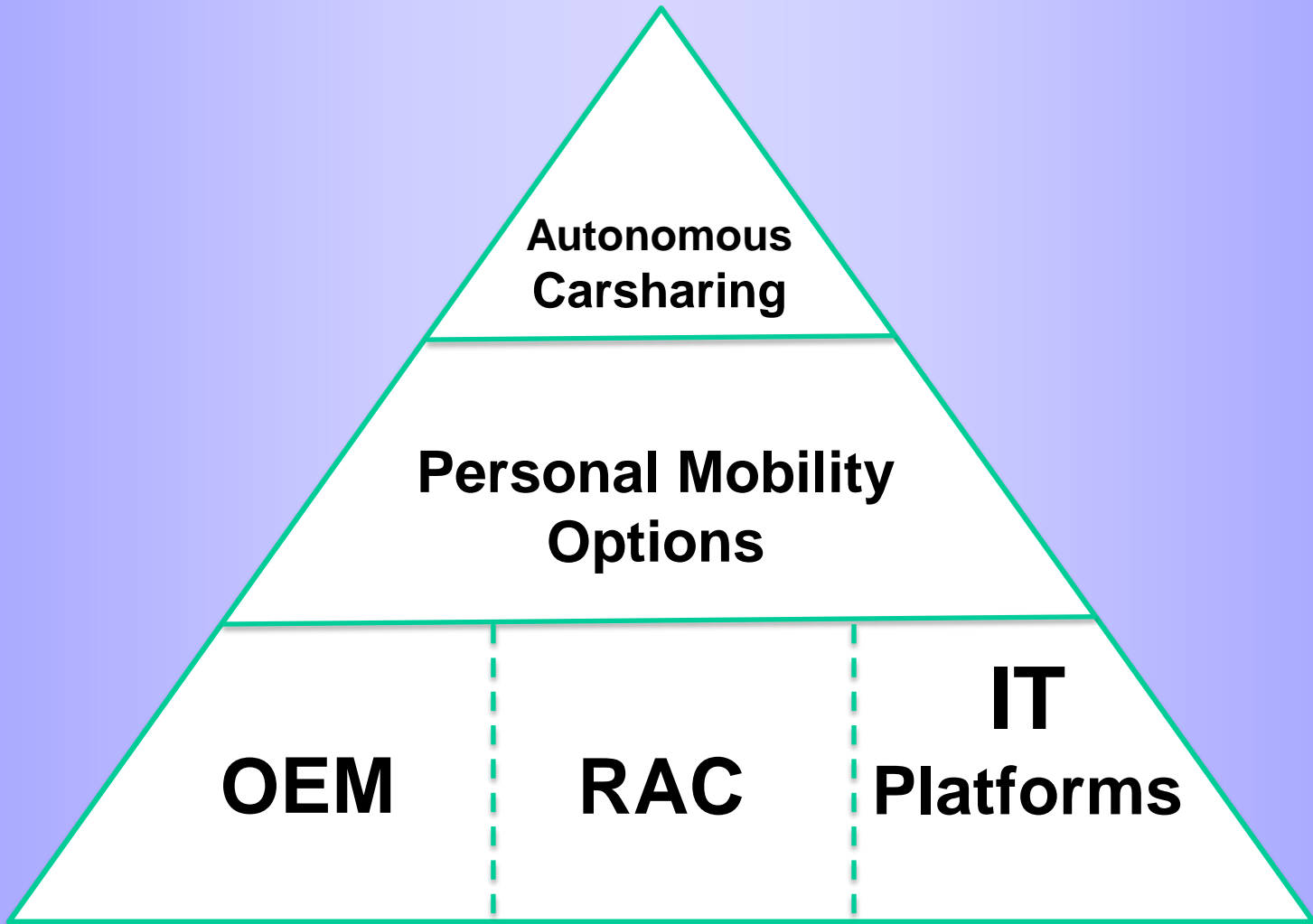


Don't Take Abrams' Word For It

“STRUCTURAL ISSUES with the car rental model remain.” Mr. Jonas sees the “fundamental outlook” of both Hertz and Avis as “extremely challenged” if they remain stand-alone car-rental companies, as autonomous-driving technology and ride-sharing services like Uber roil the traditional transportation business model. If car rental companies do not adapt their business models to embrace new business ideas and technologies, they could be in danger of being squeezed out by innovative partnerships between Silicon Valley and traditional car manufacturers, he noted. “The traditional car rental firms will need some out-of-the-box thinking and deft execution to navigate the challenges ahead”, Mr. Jonas wrote. “We would not rule out the possibility of success here, but we do acknowledge the extraordinarily high levels of risks compounded by market forces outside of the company’s control.”

-- Morgan Stanley

Adam Jonas, Analyst



Connectivity + Autonomy + Electrification



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