A CASE for Reimagination – Automotive Industry at the Cross Roads

Abstract

How can Automotive OEMs reinvent themselves to stay relevant as technology and connectivity transform the concept of 'vehicle as a product' into a digitally-enabled 'experience platform' providing 'mobility as a service'?

In the 1975 classic 'Marketing Myopia' published in the Harvard Business Review, Theodre Levitt refers to the case of the then prevalent rail road business in the following paragraph–

"The railroads did not stop growing because the need for passenger and freight transportation declined. That grew. The railroads are in trouble today not because the need was filled by others (cars, trucks, airplanes, even telephones), but because it was not filled by the railroads themselves. They let others take customers away from them because they assumed themselves to be in the railroad business rather than in the transportation business. The reason they defined their industry incorrectly was that they were railroad-oriented instead of transportation-oriented; they were product-oriented instead of customer-oriented.[1]"

In just about 50 years since the concept was first published, the automotive industry is staring at a new reality, where the entire idea of frictionless

transport and mobility as a service takes us back to the need to focus on 'transport' and not just the vehicle.

As four key trends collectively referred to as CASE (Connected, Autonomous, Shared and Electric) gather momentum, the concept of 'vehicle as a product' will give way to the emerging paradigm of 'mobility as a service'. In the future, customers will see cars as part of an ecosystem of 'mobility services' that offer seamless, safe, cost-effective and time-efficient transport.

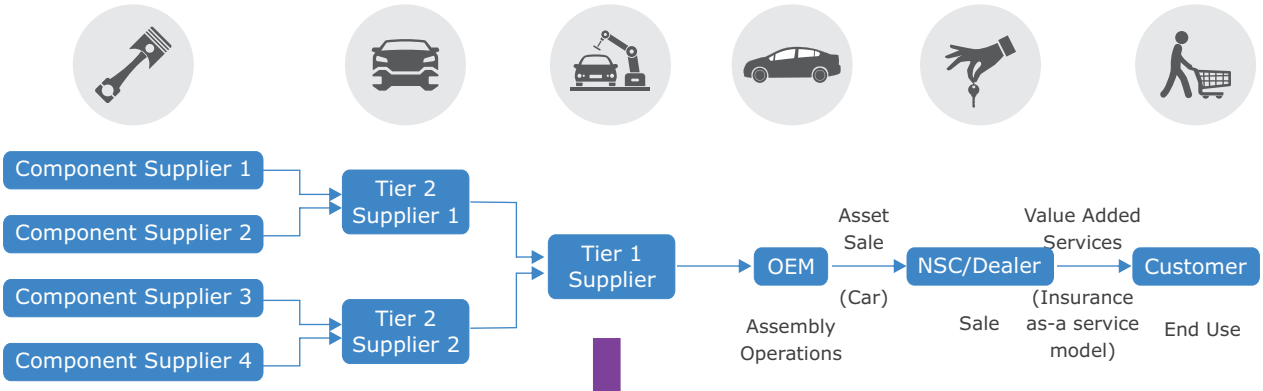
In response to this accelerating shift, the industry has started to pour in billions of dollars into research, innovation and product development[2]. The increase in R&D spend of leading players has outpaced their rate of revenue growth in recent years[3]. The real challenges in front of the players is the ability to make sustainable investments while maintaining a parallel profitable line of business, and continuously exploring the opportunities to create new revenue streams from business.

At TCS, we believe OEMs will be well served by adopting the principles of our Business 4.0™ framework, a growth and transformation model that will help automotive clients leverage emerging technologies to reimagine their competitive strategies.

In this paper, we layout a 'path to profitability' for creation of 'exponential value' while embracing risk to develop and adopt new business models. There is abundance of data and innovative talent in the rapidly evolving and completely revitalized 'automotive ecosystem', which now includes adjacent industries with the common agenda to deliver a personalized experience to owner, driver or rider seeking seamless and frictionless mobility.

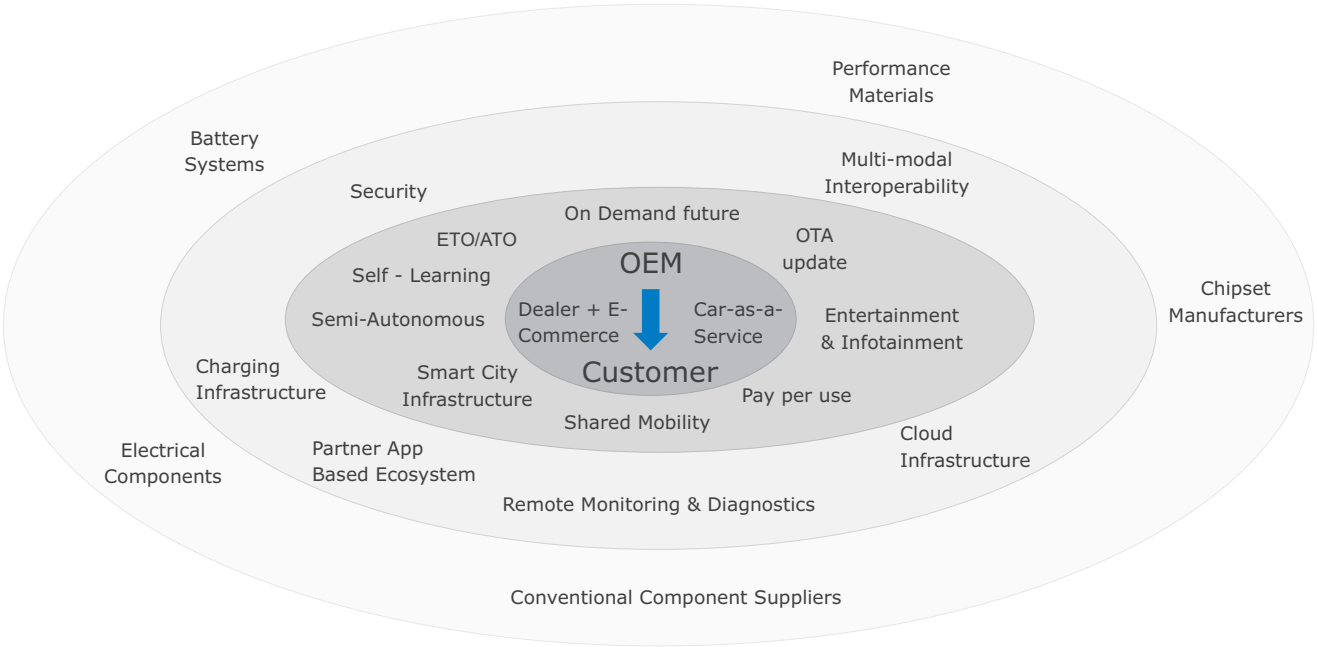
Evolving Value Chain

TCS believes that the car will ultimately be reshaped from a 'product' to a 'real-time connected digital experience platform'. The single biggest driver for this change is the 'connectedness' of the car and the 'intelligence' embedded into it. We believe that this will progressively playout in the form of changing business models and ecosystem, especially as the vehicle becomes an autonomous entity.



Closer to Consumption
Context aware Value Chain

Suppliers



The Reshaping of the 100-year Old Industry

The automotive industry is being reimagined on multiple dimensions simultaneously, reshaping the idea of mobility. TCS believes that the increasingly software-driven capabilities of the vehicle will lead to its emergence as a 'Digital Experience Platform' and create a new multi-tiered framework, connecting the physical car to the user experience, thereby enabling automakers and other industry participants to monetize both data and the time spent in the car.

In the new emerging reality, the car owner's journey is a convergence of many different drivers – travel, energy, home, hospitality, insurance, finance and others – and the challenge is to provide a seamless experience to the customer. That's where the concept of 'car as a digital experience platform' comes in to create a differential experience, inclusive of commerce and market place activities as we seek to monetize the time spent inside the car, effectively owning the customer life cycle.

The following figure depicts how products, customers and businesses pertaining to the automotive industry are transforming themselves in the new digital age.

Product

- **The vehicle as a product vs mobility as a service** leading to the need for providing differentiated mobility experience through personalization enabled by contextual analytics.
- **Shortening of feature lifecycles** requiring faster pace of innovation and time-to-market for new features
- **Vehicles curated for new segments** such as pods for last-mile mobility or purpose-built cars for ride-share
- **Crowd sourcing features** leveraging usage patterns and performance

Customer

- **Frictionless mobility** across transportation options -- personal, personal + shared, public and multimodal
- **Grow personalized** and differentiated services providing integrated connected digital experience
- **New channels** driven by social media influence and virtual buying

Business

- **Ownership vs utilization:** Vehicle sales may slow down[4] but person miles will dramatically increase as a larger base of customers, who were hitherto out of the personal mobility envelope, will come into the system.
- **Changes in revenue models:** FROM mobility-on-demand, subscriptions etc. TO personalized revenue streams – in-car infotainment, in-car commerce, subscription services, digital concierge services, personalized insurance etc.
- **Changes in operating models:** The future of mobility will be managed a by complex web of systems – a system of systems – in the back-end simplifying life for the customer in the front end.

Business 4.0™ at play

In our point of view, the CASE Auto business carries a very close imprint of the Business 4.0™ framework offering a unique perspective to unlocking the tremendous potential of emerging ecosystem. Leveraging this framework, we looked at the CASE Automotive business.

Our close and detailed study helped us design the following roadmap for the OEMs:

Deliver mass customization: Personalization will be the key to owning the customer for life. OEMs will have to abandon their traditional focus on product design and look at customer experience design. They must use the abundance of data and advanced analytics to provide unique end-to-end experiences and personalized service experience -- for example, providing proactive service based on predictive analytics of vehicle health.

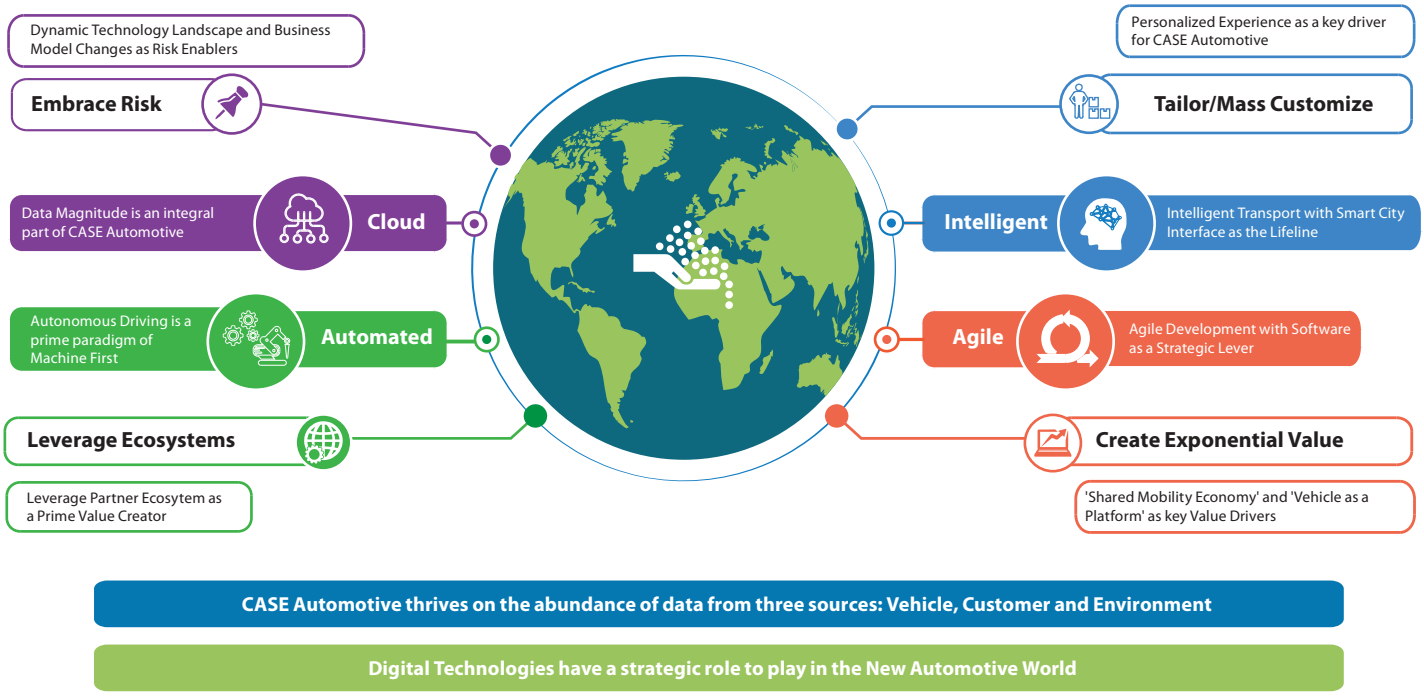
Harness abundance: CASE Auto thrives on an abundance of data – from the vehicle, from the customer, and from the mobility environment. This abundance of data presents a huge opportunity for OEMs –to design an intelligent, self-learning and self-optimizing ecosystem that offers mobility users a highly individualized experience.

Embrace risks: The pace of innovation in technology-led features and the changes in business models come with huge risks. The industry must embrace this risk in its journey from an asset to a service economy. OEMs will have to move away from minimal risk strategies and take calculated gambits to explore new business models and ideas of customer engagement.

Create exponential value: The 'shared mobility economy', along with the vehicle to ecosystem (V2X) integration, has the potential to create exponential value for all automotive stakeholders. OEMs will have to start viewing the vehicle as a digital experience platform, on which they must collaborate with an ecosystem of partners to deliver differentiated value.

Leverage the ecosystem: CASE Auto by design leverages an ever-increasing ecosystem of partners to deliver value, focusing on best-of-breed capabilities. OEMs on their part can play the role of an enabler and integrator, tying in the multiple systems in play – across OEMs, third-party service providers, public transportation systems etc. – to deliver a seamless customer experience. Technology will continue to be a big driver, considering that this change is not one, which is enabled by technology but one, which is built around digital technology as its core.

- Agile: The entire build of the CASE product & service offerings is on the basis of agile development with software being a prime driver of the features. Not only is this relevant from a product development process, but the enterprise orientation will need to be aligned to this new customer-centric, market-driven thought process.
- Intelligent: Intelligent transport with smart city interface is the lifeline of the CASE economy. The abundance of vehicle and ecosystem data makes it a ripe case for contextual intelligence derivation.
- On the Cloud: The magnitude of the data being generated makes cloud an integral part of the CASE Auto strategy. The concept of 'cloud cars'[5] is gaining significant traction in the market already, with all major cloud-based platforms seeking to play a role here.
- Automated: Autonomous driving is all about automated 'Machine First™' driving capabilities. Even in the vehicle development phase, there is significant scope for leveraging the cognitive and self-learning capabilities for intelligent feature enablement.



There is also tremendous potential for learning from the adjacent industries -

- Airplane manufacturers are aggressively moving forward to enter the services business by leveraging their extended ecosystem of partners. This is especially in the context of maintenance repair and overhaul (MRO) with predictive maintenance, 'flying hours as a service' business model, and fuel efficiency management for outcome-based engagements and related opportunities. Air traffic control (ATC) towers have long been guiding around aircrafts of different airlines criss-crossing the globe, and passing the controls from one ATC to the other as the aircraft moves, seamlessly. The same concept now needs to come to life, as the ground transportation industry moves to seamless mobility from point A to Point B, into ridership, driving interoperability, revenue sharing and more important security management.
- The EV charging ecosystem is looking for an affordable take-off point, with interoperability of protocols. The utilities and fuel companies see the threat to their conventional business model near and real, and are working to integrate forward and embrace the charging ecosystem not just for business sustainability but also to leverage the highly valuable real estate that they already enjoy as assets. The convergence of these two industries is inevitable.

Future Forward: Leading the Change through a Connected Automotive Ecosystem

There is little doubt that the digital and adjacent technologies along with software as the driver of connected, autonomous, shared and electric automobiles, will prove to be a game changer in this industry. Reimagining the mobility ecosystem around the Business 4.0™ framework, offers significant opportunities for both incumbents and new entrants.

This movement from linear strategies to integrated ecosystems for value creation at multiple levels is driving a compounding of impact. Going beyond industry boundaries to develop mutually beneficial relationships to deliver a complete customer experience and leverage synergies is the need of the hour, which would transform the industry from a conventional B2B to a new B2B2C format, engaging not just the dealer channel but many other ecosystem partners. We believe that the journey of

value discovery has just begun in this industry. And, only players who can match the hype with sustained financial performance will be the ones that will stay afloat as we see early maturity emerge. It is potentially for this reason that we see partnerships, consortia, and JVs emerge between the fiercest of rivals and the most unlikely of cross industry players.

References

[1] https://hbr.org/2004/07/marketing-myopia

[2]https://digital.rdmag.com/researchanddevelopment/2019_global_r_d_funding_forecast?pg=17#pg17

[3] Based on a TCS analysis of R&D spend of top 10 Automotive OEMs and Suppliers

[4] https://www.coxautoinc.com/news/retail-auto-sales-drop-further-evolution-of-mobility-study/

[5] https://www.infoworld.com/article/3297060/the-cloud-will-soon-drive-your-car.html

About The Author

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Sreenivasa Chakravarti is the Vice President with the Manufacturing Business Group at TCS. He is responsible for driving thought leadership and incubate ideas for strategic growth and transformation aligned the futuristic business trends in the Manufacturing Industry.

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