Competitive Asymmetry and Structural Challenges in Automotive Electrification

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On 24 October 2024, a 1,500 hp prototype version of the SU7 Ultra electric vehicle (EV), available from Xiaomi, broke the official lap record for a four-door car on the famous German racetrack Nürburgring Nordschleife. This event was remarkable for a couple of reasons. First, Xiaomi was a true newcomer to the automotive industry. Xiaomi announced its intent to enter the electric vehicle market only in March 2021 and the company received a permit to produce vehicles only in August 2023.

Second, the base model of SU7 is rumored to be available at around €30k which is an extremely competitive price point which resulted in social media chats abound the SU7 being faster than Porsche Taycan, but cheaper than a Skoda (an entry-level priced family car, traditionally sold in Eastern Europe). Since the SU7 record, there have been other records by the Chinese EVs, such as the one by the BYD Yangwang U9 Xtreme. In September 2025, this 3,000 hp supercar set a new global production-car top speed record, at 308.4 mph (~500 km/h) at the ATP Papenburg track in Germany, and surpassed the previous record held by the Bugatti Chiron.

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We believe that these recent records highlight the structural challenges and the competitive asymmetries in automotive electrification. Here, we discuss two of those challenges, such as the asymmetrical talent pool and the inherent competitive advantages of EVs.

First, let us discuss the asymmetrical talent pool and its impact on product development. SU7 was developed and launched within 36-48 months, which is remarkably rapid product development cycle, especially by a new entrant. There are different arguments on how such a rapid development was possible. Some argued that Xiaomi was able to leverage its extensive supplier and partner ecosystem which was built around its $50B consumer electronics business.

Others argued that Xiaomi was able to leverage its core capabilities of rapid commercialization which was a hallmark of its core business of consumer electronics. Each of these arguments probably has merit and is likely valid. However, another word on the street at that time was that Xiaomi was able to mobilize a network of 150k R&D engineers to rapidly develop SU7. This is, although plausible, a difficult to substantiate claim. If true, it will highlight a major asymmetry between incumbents and new entrants in the available talent pool and resources.

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Second, many OEMs estimate that EVs fundamentally cost less to build. For example, EVs need about 25-40% less labor to assemble and build, excluding battery production. This is perhaps easy to visualize when the number of individual parts in a typical car is considered. A typical internal combustion engine (ICE) car has about 20k-30k parts, most of which are small connectors and fasteners, concentrated in the engine and transmission. On the other hand, a typical EV has only half as many parts as a typical ICE car. These inherent asymmetries provide advantages to the new entrants with EVs over the incumbents with ICE cars.

As the late Sergio Marchionne, the CEO of Fiat Chrysler Automobiles, said before his untimely passing, global auto industry is at a turning point. He strongly believed that mergers and consolidation was the only viable option for the incumbent OEMs to survive, when he famously pushed for a merger between General Motors and Fiat Chrysler. Time will tell whether he was correct, however it is undeniable that the automotive industry has fundamentally changed within the last decade, and the structural challenges and competitive asymmetries are obvious.

We have a long tenure in automotive industry, from R&D to manufacturing, operations management, and supply chain. If you are interested in learning more about our work in the automotive industry and about how we can help you, please contact us at sei-partners.com

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