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Future of Asia

Asia's consumers on the move

The future of mobility

November 2021

Economic growth and shifting consumer values are transforming the opportunities in Asia for players in the automotive industry. Three recommended actions are keys to success in this new environment.

Asia is the world's consumption growth engine. If you miss Asia, you could miss half of the global picture—a $10 trillion consumption growth opportunity over the next decade. Globally, one of every two households with at least an upper-middle income is expected to be in Asia, and one of every two dollars of global consumption growth is likely to occur in the region.

New research from the McKinsey Global Institute (MGI) identifies the large potential for consumption growth in Asia and patterns of growth affecting companies serving Asian consumers.[1] As incomes rise across Asia, more consumers will reach the highest tiers of the income pyramid. Consumption growth will likely be driven more by movement within the consuming class—those who spend more than $11 a day in purchasing power parity (PPP) terms[2]—than movement into it.

As a result, mobility value pools across Asia are expected to grow while new patterns of consumption will transform the nature of opportunities in the region. Consumers may adopt new behaviors such as considering new forms of ownership, increasing eco-consciousness, and changing brand preferences. Players in the automotive sector have opportunities to capitalize on these trends to create more value for consumers. These opportunities may include increased accessibility through shared mobility, improved environmental quality, more choice of vehicles with different ecological footprints as electric vehicles (EVs) become mainstream, fewer traffic incidents and congestion, and reduced time spent commuting as the mobility mix changes.

New forms of access to mobility are leading to value pool shifts

The conventional way to understand growth in the four-wheel automotive sector has been to view it through an income lens. The penetration of car ownership follows a well-established income-driven S-curve, which increases sharply when countries reach sufficiently high incomes (Exhibit 1). Countries with higher levels of income have created significant opportunities for automotive players with business models anchored on the sale of passenger cars.

New access curves are emerging alongside income-driven S-curves

However, new forms of mobility, such as ride hailing, follow a very different pattern. Penetration depends much less on income: consumers who cannot afford to own a car can still access private-vehicle-based mobility because it is relatively inexpensive, so price is not a barrier. In countries with relatively lower incomes, such as Indonesia and Malaysia, the penetration of ride hailing is much higher than in higher-income nations such as Japan and South Korea. Asian companies have driven high penetration rates and created many of the region's large technology players, including Didi in China, Grab and Gojek in Southeast Asia, and Ola in India.

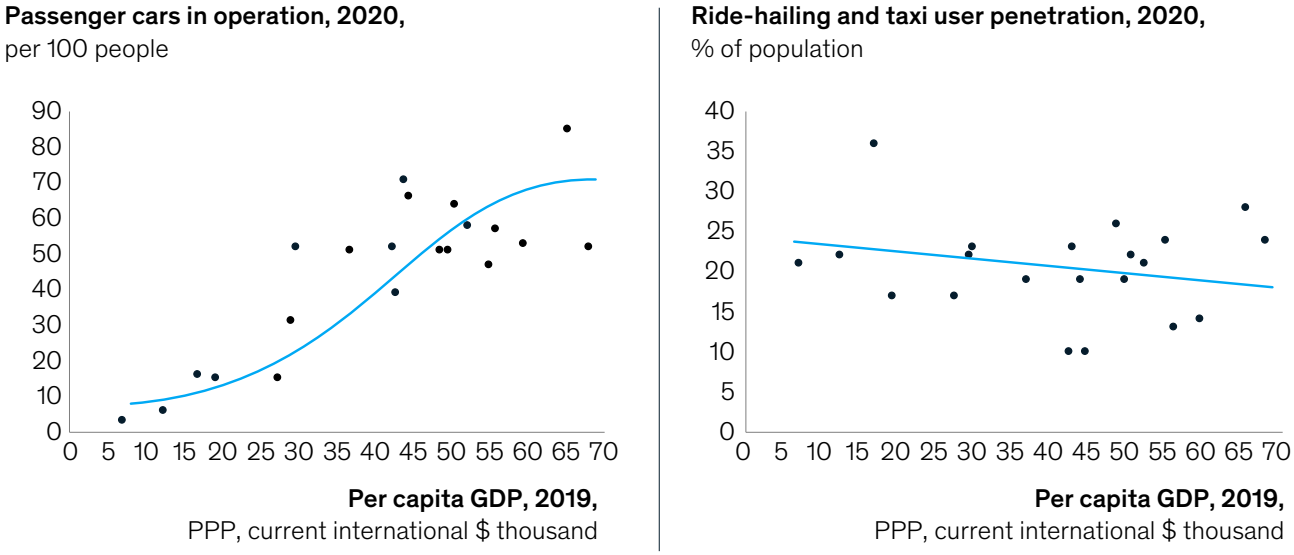
As new forms of access have emerged, mobility value pools in Asia may go through a pivot point where growth shifts to new forms of mobility and different regions (Exhibit 2). In China and Japan, McKinsey's Center for Future Mobility estimates that value pools for private-vehicle sales are likely to hit their peak over the next two decades. In three different scenarios of technology adoption, private-vehicle sales in Japan are expected

[1] For more, see "Beyond income: Redrawing Asia's consumer map," McKinsey Global Institute, September 2021, on McKinsey.com

[2] Members of the consuming class have sufficient income to pay for necessities such as food, shelter, and clothing, as well as discretionary goods and services. The definition is broadly aligned with definitions of the middle class by other authors. See Homi Kharas, *The unprecedented expansion of the global middle class: An update*, Global Economy & Development working paper, number 100, Brookings Institution, February 2017, brookings.edu. In Surjit S. Bhalla, *Second among equals: The middle class kingdoms of India and China*, Peterson Institute for International Economics, April 2007, piie.com, the threshold was $10 in 2005 PPP terms, roughly equivalent to $11 in 2011 PPP terms. Also see Rakesh Kochhar, *The pandemic stalls growth in the global middle class, pushes poverty up sharply*, Pew Research Center, March 2021, pewresearch.org.

Exhibit 1

The relationship between income and consumption is being reshaped in the mobility sector.

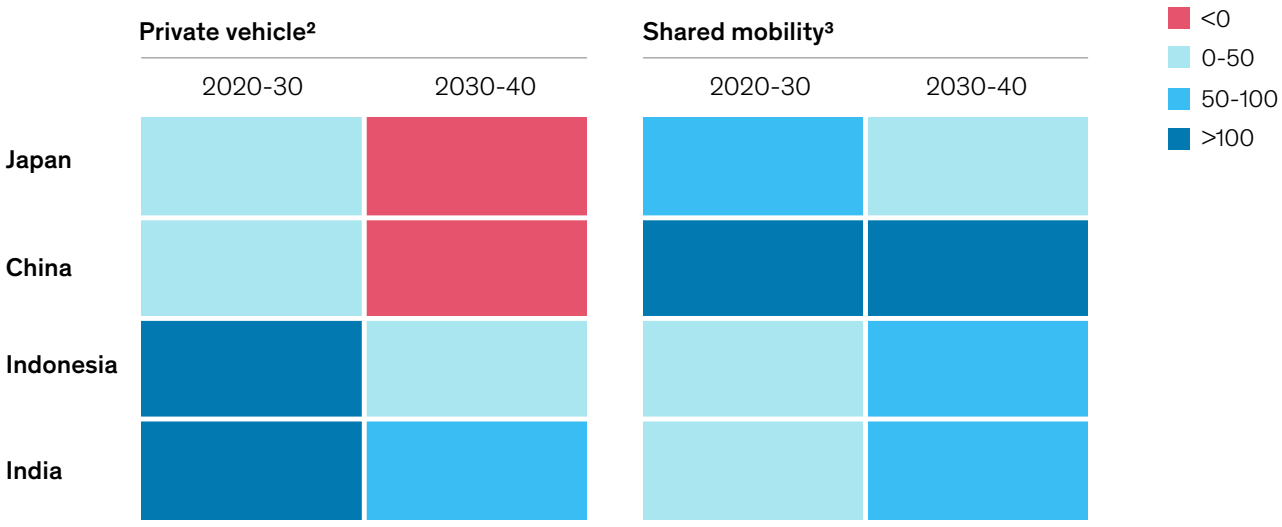


Note: Each dot represents 1 economy. Curves are illustrative.
Source: McKinsey Center for Future Mobility; Statista; United Nations; World Bank; McKinsey Global Institute analysis

Exhibit 2

The private vehicle value pool may hit an inflection point in China and Japan, but it continues to grow in India and Indonesia.

Reference scenario
10-year growth of value pool by mode, %[1]



[1]Mode split includes all mode-related revenue from the full value chain, eg, vehicle sales, usage costs, and mobility services.
[2] Includes private vehicles of up to 3.5 tons and fleets; excludes 2- and 3-wheelers, buses, and trucks.
[3] Includes ride hailing, car sharing, rentals, taxis, shuttles, and robo-taxis.
Source: McKinsey Center for Future Mobility, Mobility Financials Model; McKinsey Global Institute analysis

to peak in this decade, whereas in China they are expected to peak in five to 15 years.[3] In an accelerated mobility transition scenario, private-vehicle sales are expected to peak in China and Japan as early as the first half of the decade. In a delayed mobility transition scenario, private-vehicle sales could remain stronger for longer. This scenario assumes that no new regulations reduce congestion and emissions, autonomous-vehicle technology will not be ready by 2030, and consumers show a strong preference for private-vehicle ownership and have low eco-sensitivity. In such a scenario, the private-vehicle share of total value pools in the industry may decline by as little as 5 percent.

For emerging economies with lower rates of car ownership, such as India and Indonesia, conventional ownership is likely to continue its expansion, coexisting with growing shared-mobility solutions. Private-vehicle sales value pools are expected to continue growing and could as much as double or even triple their current amount over the next decade.

In the case of shared mobility solutions, including ride hailing, car sharing, car rental, taxis, shuttles, and robo-taxis, penetration is expected to grow strongly under all scenarios across Asia. As new forms of shared mobility emerge, such as online ride hailing and robo-taxis, shared mobility is expected to grow to make up 15 to 25 percent of the mobility value pool in Asia. The growth of shared mobility solutions is likely to be faster in China, while countries such as India and Indonesia are expected to experience a more prolonged takeoff in shared mobility, with an acceleration from 2030 onward.

New consumer behaviors are transforming consumption patterns

The shifts in value are likely to be driven by new consumer behaviors over the next decade. Automotive players seeking growth in Asia may consider five key behavioral shifts.

New forms of ownership are emerging

Economic pressures, changing consumer attitudes, and technology have prompted many Asian consumers to consider alternatives to traditional ownership, including renting, subscribing, sharing, or buying secondhand.

Online ride hailing is the best-known manifestation of the sharing economy in mobility. Online ride-hailing services, such as Didi, Gojek, Grab, and Ola, are estimated to have served more than 800 million users across Asia in 2020. There is a large opportunity for companies engaged in offering shared mobility solutions, from ride-hailing players to original equipment manufacturers (OEM) that develop strong business-to-business (B2B) offerings to serve shared mobility platforms. For example, Hyundai has partnered with Grab to accelerate the ride-hailing company's adoption of EVs in Southeast Asia, piloting the deployment of 200 Hyundai Kona EVs in Grab's fleet in Singapore.

However, ride hailing is not the only way consumers are changing their approach to ownership. Major car manufacturers such as Toyota and Hyundai and start-ups including Carro in Singapore are launching subscription-based car services.[4] According to its website, Toyota subsidiary Kinto specializes in offering mobility services, including Kinto One and Kinto Flex, both monthly subscription services that include insurance, maintenance, and registration. In a recent survey, about 55 percent of Chinese consumers said they were open to using rental options in lieu of purchasing their cars.[5]

Secondhand ownership also is on the rise, supported by the growth of buy-and-sell digital platforms such as Carousel in Singapore. In many countries in Asia, including Indonesia and Thailand, secondhand cars already account for the majority of cars sold.[6] In China, the majority of car sales are new, and the secondhand market is expected to grow even faster as the government implements favorable policy and the quality of car manufacturing increases.[7]

[3] McKinsey's Center for Future Mobility models three scenarios for the evolution of mobility value pools, depending on the speed of adoption of emerging mobility business models and technologies: a reference scenario (base case), delayed mobility transition, and accelerated mobility transition.
[4] Zinnia Lee, "Singapore's car market Carro becomes unicorn with $360 million funding round," *Forbes*, June 15, 2021, forbes.com.
[5] Paul Gao, Mingyu Guan, Aaron Hsu, Bill Peng, and Tony Zhou, "The race to win: How automakers can succeed in a post-pandemic China," August 2021, McKinsey.com.
[6] ASEAN used cars: Digitized supply meets elevated demand," Redseer, December 2020, redseer.com.
[7] "2020 international automobile sales inventory: Sino-US new vs secondhand car transition ratio is 1:6," Sohu, January 29, 2021, sohu.com.

OEMs seeking to capitalize on new notions of ownership may consider which markets they can continue to serve using a conventional sales approach and which ones may require a different revenue model—for instance, creating B2B partnerships with mobility providers or new revenue sources such as car subscription services.

The big convergence is changing the role of the OEM

The nature of consumer demand is being reshaped by a "big convergence" in which many consumer needs are being aggregated and served by different types of digital ecosystems. There are varying degrees of integration, ranging from domain-specific ecosystems to super apps. As digital natives embrace new channels, the expectations of what a car can do are changing, and in an era of commoditized hardware, automotive players may consider how to revamp the customer experience radically through the creation of mobility ecosystems.[8]

Increasingly, vehicles may no longer be merely ways to get from A to B; instead, connectivity will enable vehicles to be hubs for many aspects of consumers' lives, including entertainment and shopping. In China, 56 percent of consumers are willing to switch brands for improved connectivity, according to McKinsey's 2020 survey on autonomous, connected, electric vehicles.[9] In a McKinsey benchmarking study, Chinese battery-powered EVs (BEVs) rank highly compared with international OEMs on providing customer experience through advanced connectivity solutions, such as advanced human-machine interfaces and integrated apps through partnerships with local tech players such as Alibaba and Tencent. This opens up new revenue streams and enables automotive companies to shift from one-time sales to ongoing revenue models and a proliferation of value-added services.[10] Another McKinsey study showed that close to 70 percent of consumers prefer paying for autonomous driving after the initial purchase, rather than it being included in the initial price; 60 percent of them favor pay-per-use or monthly subscription models, as opposed to one-off payments.[11] McKinsey's Center for Future Mobility estimates that the total revenue pool for connectivity services across Asia in 2030 could range between $80 billion and $120 billion.[12]

New channels enable automotive companies to reinvent customer engagement

Interactions between automotive companies and consumers are likely to be reshaped over the next decade. The channel mix is shifting as consumers increasingly favor direct-to-consumer approaches and innovative ways of making contact, such as virtual showrooms and digital channels.[13] In India, 95 percent of consumers in a 2020 survey claimed to use online channels to research new cars, and 54 percent of consumers said they would buy a car online if given the option.[14]

Designing a seamless customer experience may require creating interfaces with leading digital ecosystems. Some pioneering Asian companies are leading the way on new methods of engaging with customers. One example is Shanghai-based auto manufacturer NIO, which designs and develops EVs. NIO actively engages customers through its app, its integration with WeChat, exclusive lifestyle showrooms called NIO houses that also function as community centers, and the company's virtual assistant NOMI. These channels give customers a wide range of digital touchpoints to buy NIO vehicles.[15] In India, Mercedes-Benz has launched a new direct-to-customer sales model and new customer-centric digital offerings such as personalized service experiences and WhatsApp as a communication platform for service updates.[16] In South Korea, Hyundai is providing the opportunity to test-drive the Sonata N Line virtually through a collaboration with Zepeto, a Metaverse platform.[17]

8 Kersten Heineke, Tamara Hornik, Dennis Schwedhelm, and Imre Szilvacsku, "Defining and seizing the mobility ecosystem opportunity," March 22, 2021, McKinsey.com.
9 Michele Bertoncello, Christopher Martens, Timo Möller, and Tobias Schneiderbauer, "Unlocking the full life-cycle value from connected-car data," February 2021, McKinsey.com.
10 "Winning the Chinese BEV market: How international OEMS compete," McKinsey Center for Future Mobility, May 2021, McKinsey.com.
11 "The race to win," August 2021.
12 "Unlocking the full life-cycle value from connected-car data," February 2021.
13 "The race to win," August 2021.
14 "Google Auto Gearshift India 2020," Google India, *Economic Times*, auto.economictimes.indiatimes.com.
15 Phate Zhang, "NIO says users have communicated with NOMI virtual assistant over 200 million times," *CnEVPost*, May 17, 2021, cnevpost.com.
16 Sumant Banerji, "Mercedes Benz to launch direct-to-customer sales model in India," *Business Today*, June 2, 2021 businesstoday.in; and Raajan Joshi, "Mercedes-Benz India unveils new digital features to enhance customer service offerings," *NFA Post*, July 14, 2020, thenfapost.com.
17 "Hyundai Motor Company provides Sonata N Line test drive experience on Metaverse platform 'ZEPETO,'" June 25, 2021 iconsumer.or.kr.

A trend toward eco-responsibility is likely to propel EV sales

Amid rising concern in Asia about sustainability, eco-responsible consumption is on the rise. In an Ipsos poll conducted in late 2019, more than 80 percent of respondents in China, India, and emerging Asian economies said they had made changes to the products and services they buy because they were concerned about climate change. This trend is likely to influence consumption patterns in the automotive sector. In China, from 2017 to 2021, the proportion of consumers saying they were willing to buy a new-energy car (NEV) climbed significantly, rising from 20 percent to 63 percent. This tendency is stronger among high-earning households (defined as those with an income of more than 48,000 renminbi, or roughly $7,445), where nearly 90 percent considered buying NEVs.[18]

The power-train mix of private vehicles operating over the next decade is likely to undergo a dramatic shift in Asia as consumer preferences for more sustainable options grow, reinforced by regulatory change that supports demand for these options. In China, 60 to 80 percent of vehicle sales are expected to be BEVs, fuel cell EVs, plug-in hybrid EVs, or hybrid EVs by 2030, while in Japan this number may be between 50 and 60 percent (Exhibit 3). In India and Indonesia, this share could reach 30 to 50 percent (Exhibit 3).[19]

The shift from internal combustion engine (ICE) vehicles to EVs not only might require automotive players to adjust their product portfolio, but also is likely to fundamentally reshape the value chain of the entire automotive industry. For example, battery suppliers are expected to play a more important role in the value chain and may subsequently capture a greater share of value pools. As the charging ecosystem develops and becomes more competitive, the market may consolidate as we see in China, where the top four players make up over 70 percent market share.[20] In the automotive aftermarket, electrification introduces a new set of car components and requires new technical competencies and capabilities.[21] However, the profit pools may shrink, given that aftermarket maintenance costs for BEVs are estimated to be approximately 40 percent lower than for ICE vehicles.[22]

Asian brands are on the rise

Asian brands account for a large share of the region's consumer automotive spending, at around 75 percent as of 2019. Asian brands have historically crossed borders, creating large regional champions. This dynamic has strengthened over the past five years, with regional players gaining three percentage points of market share. Japanese and South Korean brands have significant market share across all Asian markets. Japanese brands have the highest market share in Australia, Indonesia, Japan, Singapore, and Thailand, while South Korean brands have the largest share in their home market plus Vietnam. Outside Japan and South Korea, local brands generally have a lower market share, except in China, where local players hold more than 30 percent of the market, and Malaysia, where the share is more than 50 percent.[23]

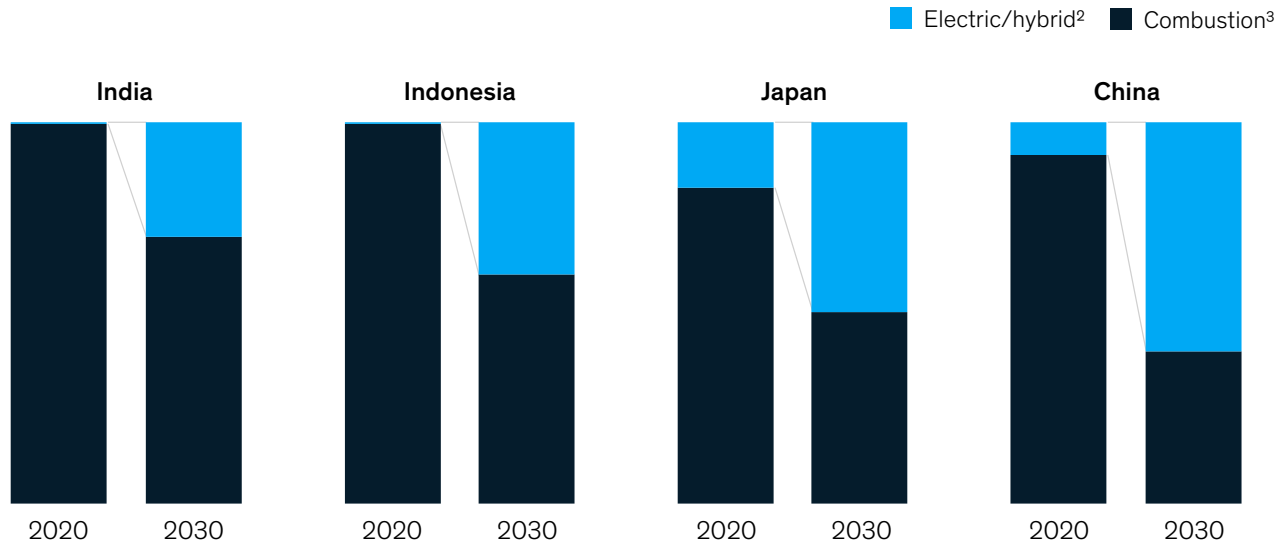
It also appears Asian brands are well positioned to serve growing value pools such as EVs. In China, the share of EV sales sold by local players tops 75 percent, with international players now attempting to penetrate the market. Wuling's Hongguang Mini EV costs about $5,000 and is among the cheapest models available in the market. In South Korea, Tesla has the largest market share, but local players such as Hyundai and Kia have a high share of the rest of the market.[24]

[18] "The race to win," August 2021.
[19] Ranges refer to a base case scenario and an accelerated mobility transition scenario.
[20] "Analysis of the market status and competitive landscape of the charge piling industry in 2021: Cost reduction has become a breakthrough point for profitability," Baidu, February 2021, baijiahao.baidu.com.
[21] Daniel Christof, Jonas Hofmann, Denis Hörner, and Sebastian Kempf, "Making every part count: A component view on disruption in the automotive aftermarket for light vehicles until 2030," May 2021, McKinsey.com.
[22] Bernd Heid, Christian Huth, Sebastian Kempf, and Geng Wu, "Ready for inspection: The automotive aftermarket in 2030," June 2018, McKinsey.com.
[23] Euromonitor.
[24] IHS Markit.

Exhibit 3

Vehicle sales are set to shift to electric and hybrid models by 2030.

Reference scenario
Passenger vehicle sales by power-train type,[1] all modes including private and shared, %



[1]Includes private vehicles of up to 3.5 tons and fleets; excludes 2- and 3-wheelers, buses, and trucks.
[2] Includes battery, fuel cell, hybrid, and plug-in hybrid electric vehicles; excludes mild hybrids.
[3] Includes internal combustion engine, compressed natural gas, liquefied natural gas, and mild hybrid electric vehicles.
Source: McKinsey Center for Future Mobility, Mobility Electrification Model; McKinsey Global Institute analysis

Automotive companies may need to redraw their map of consumption growth in Asia

The Asian consumer landscape is being reshaped. Rising incomes, new sources of growth, and a new consumption paradigm require companies to prepare for the next decade of competition. MGI's research identifies three key actions companies may need to consider if they want to compete and thrive in the next decade of serving Asian consumers:

1. **Redraw your growth map.** Each company has a map of growth, but this can all too easily become outdated unless management makes a concerted effort to understand and track dynamically changing markets. Companies may need to rethink how demand for their products and services is likely to evolve and to look carefully at which of the growth angles are relevant to their businesses. In the automotive sector, players may capitalize on the big convergence by investing in connectivity services, in-car entertainment, and interfaces with local ecosystems and super apps. NIO of China is just one example of a company tapping into multiple new growth angles. It is catering to digital natives' expectations by developing virtual assistants and BEVs and by optimizing their channel mix through the creation of direct-to-consumer approaches and virtual showrooms, as discussed previously.
2. **Increase your agility.** With a refreshed growth map, companies may consider adopting a more agile operating model; increasing the speed of innovation in order to get to market more quickly; empowering local decision makers, given that centralized decision making

and execution are unlikely to be sufficient to capture the nuances of local markets; and ensuring that the company board is digitally savvy. Resource reallocation may be particularly crucial, as automotive players may need to reallocate substantial capital to areas of growth and opportunity, such as electrification and connected vehicles.

3. **Open up.** Companies must not only be agile but also take an open, networked approach. In increasingly diverse and dynamic markets, companies will likely find it hard to be all things to all consumers. For many, a promising way forward may involve partnerships and ecosystems. Companies need to decide whether to lead their own ecosystem or participate in an existing one, depending on which role they can fulfill most effectively. OEMs will need a clear view of strategic positioning across the mobility ecosystem and level of the technology stack depending on desired strategy and capabilities. Doing this while maintaining an innovative customer experience will be crucial.

Asia's mobility market is changing as the region's consumers diversify and as preferences and behavior shift. Considerable value no longer depends as much as it once did on consumers being at a particular income level, and new consumption curves are emerging in some categories. Significant opportunities lie ahead for automotive and mobility players who track and understand these shifting patterns of consumption. Now is the time to refresh intelligence on Asia's consumer markets and redraw the map of growth.

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