

Introduction	1
Five trends shaping China's NEV market	3
Three value chain position models and their core capability requirements	10
Creating a strategic framework for NEV layout design	12
Conclusion	22

Introduction

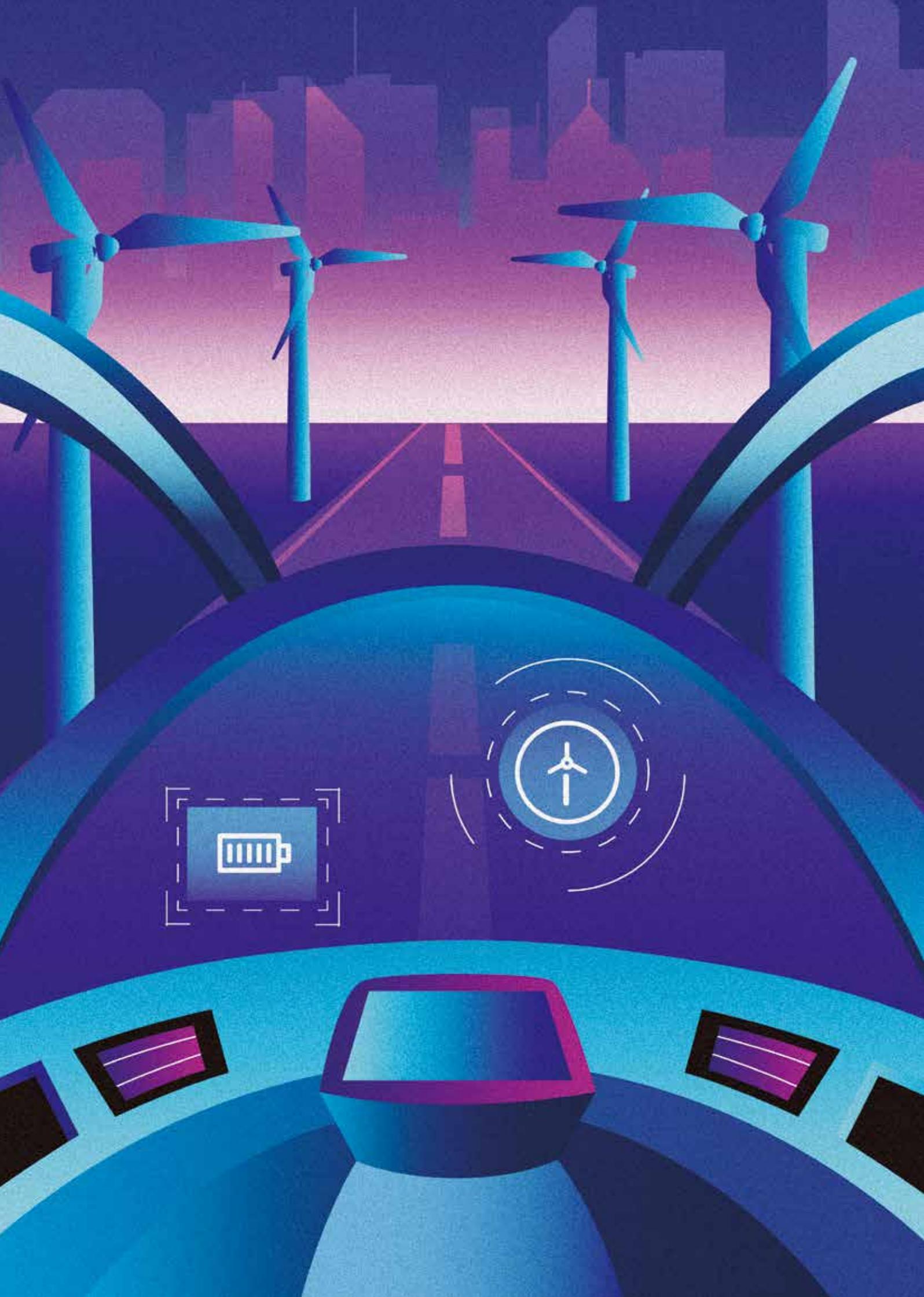
In recent years, new energy vehicles (NEVs), with their promise of reducing pollution, offering cheaper modes of travel, and preserving our energy reserves, have raced into the mainstream. At Auto Shanghai 2019 held in April, NEVs were the cynosure of all eyes, with a record number of models boasting impressive features being introduced. Even as investments by traditional automakers and new NEV participants in the sector increase, consumers are paying more attention to and becoming more accepting of NEVs.

However, the NEV industry is facing serious challenges related to quality and security, especially when it comes to the development of core technology capabilities. Incidents of spontaneous combustion in NEVs of leading brands have set the alarm bells ringing in the industry.¹ Clearly, the industry has a long way to go before it perfects its act. But, just like the challenges, the opportunities are immense.

The next two years will be crucial for the industry, as the NEV market is transitioning from being policy driven to market led. The industry is all set to usher in Era 2.0 of highly market-oriented, differentiated NEVs. The integration of intelligent technologies in vehicles and the rise of the internet of vehicles (IoV) are reshaping the NEV value chain. The traditional rules of the game are being challenged and rebuilt, and the focus of the competition is shifting from products to products-plus-services offerings, from a single capability to comprehensive competence in business models, and from intro-industry to inter-industry collaborations.

At the same time, NEV companies are under enormous pressure due to reduced subsidies, excessive capacity, and competition from emerging players. They also need to address various profitability challenges as huge investments in smart technology R&D, new retail transformation, and service innovation are driving up costs. There is an urgent need to reshape profit models as uncertainty persists about new profit sources and value creation through service innovations using big data. To win in this scenario, NEV companies must figure out how to address these challenges.

With a view to help NEV companies-traditional original equipment manufacturers (OEMs), new entrants as well as domestic and foreign players-identify a clear strategic direction, this report outlines five major trends and drivers in China's NEV market. These cover technology choices, product differentiation, retail and network transformation, the competitive landscape, and value chain evolution. The report also draws on insights from Deloitte's global leading practice, advanced research, smart analytics tools, and knowledge of Chinese NEV consumers to put forward three types of value chain models and strategic thinking frameworks to enable companies to design an effective NEV strategy.



Five trends shaping China's NEV market

1. BEVs and FCVs will lead development of NEV market

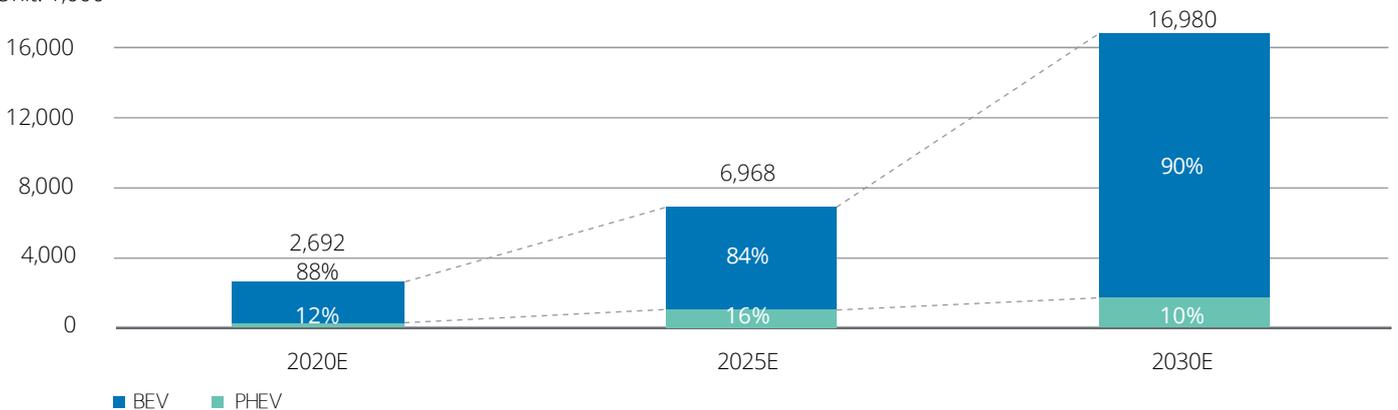
In China, from a strategic perspective, battery electric vehicle (BEVs) and fuel cell vehicles (FCVs) coexist and are supporting the development of NEV industry. In the passenger vehicle market, BEVs will dominate, as plug-in hybrid electric vehicle (PHEVs) are only transitional products, while in the commercial vehicle sector, FCVs will be tested first. However, FCVs have a long way to go before they enter the passenger vehicle market.

Deloitte projections suggest that BEVs will account for 90 percent of overall NEV sales in China in 2030, with sales volume of more than 15 million vehicles and PHEVs contributing only 10 percent. BEVs will dominate the NEV market for the next 10 years (Figure 1), driven by factors such as favorable government policies (subsidies, license plates, purchase taxes, etc.), improved charging infrastructure, lower purchase and use costs as compared to PHEVs, and advances in battery technology. Due to changes in industrial policy,

investments in ordinary hybrid electric vehicles (HEVs) and PHEVs will fall in the same category as internal combustion engine (ICE) vehicles, and PHEV investment will probably decline. Furthermore, as policy support for PHEV end users declines or is revoked, the sector's development will be affected.

Figure 1: China New Energy Passenger Vehicle Market Size Forecast

China New Energy Passenger Vehicle Market Size (-2030)
Unit: 1,000



Source: Deloitte NEV Market Forecast

Despite reducing subsidies for NEVs, the Chinese government has been providing more support for FCVs. It has kept FCV subsidies unchanged and listed research on hydrogen energy and fuel cell technology as one of the 15 priorities under its Energy Technology Innovation Action Plan 2016-2030. However, under China's energy strategy, electric power is considered core and hydrogen power supplementary. Therefore, it will be a while before hydrogen supply infrastructure, especially refueling station construction, can develop fully and become popular due to cost and technology constraints. In addition, the high production cost of hydrogen fuel cell systems makes their application in the passenger vehicle market a challenge. Initially, hydrogen fuel cell technology is likely to find applicability in commercial vehicles such as mid-sized and large buses, logistics vehicles, and heavy trucks, which have a lesser need for hydrogen refueling stations and relatively fixed driving routes and parking points.

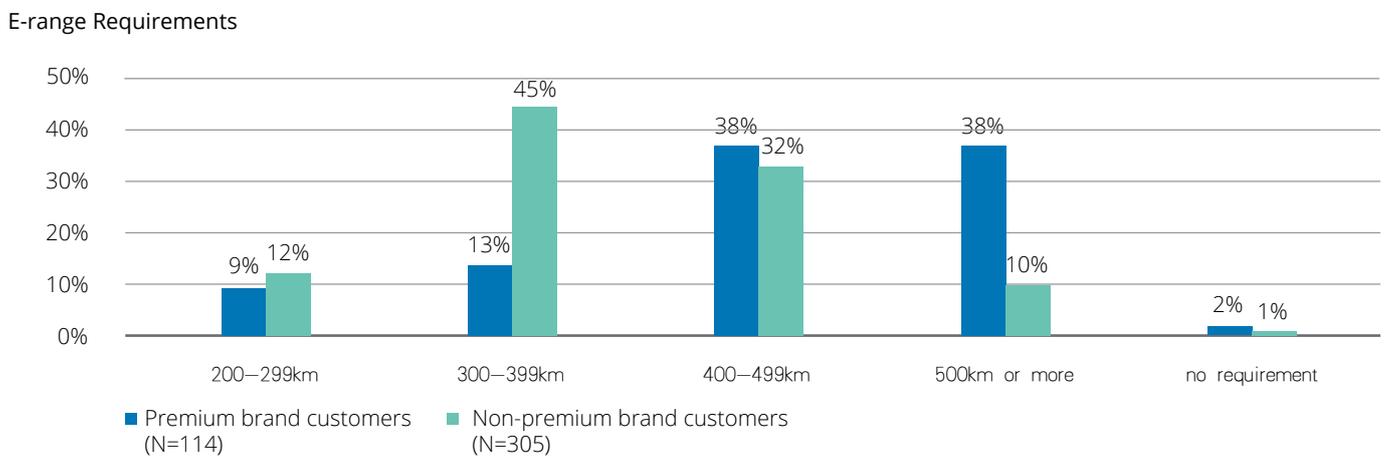
2. Hard features will no longer be deciding factors in NEV purchase

The key differentiators of NEVs will be smart and connected functions as well as human-oriented design, which will overtake hard features such as e-range and charging speed as the primary factors influencing consumer decision to purchase these vehicles. According to the NEV model 2018 catalog released by China's Ministry of Industry and Information Technology, the average driving range of NEVs in electric-only mode increased to 313km in 2018 from 222km in 2017, up 41 percent year on year, with energy density rising by 25 percent. China's second NEV model catalog from 2019 indicates the typical driving range of passenger vehicles has reached 400km, approaching the same mileage achieved by ICE vehicles with a full tank.

According to Deloitte's NEV consumer survey, 60 percent of premium BEV owners and 89 percent of non-premium BEV owners believe that

BEVs with a range of more than 400 km can meet their daily needs. (Figure 2) Meanwhile, ongoing technological innovation will drive the creation and adoption of increasingly disruptive battery and charging technologies. For example, China and Japan are cooperating on a fast-charging solution to bring charging time down to 10 minutes or even lesser by 2020; new solid-state battery technology could extend NEV mileage to 1,000km, with an energy density of more than 400WG/kg. Further, OEMs are providing innovative charging solutions such as battery swapping, mobile charging services, and one-stop charging solutions by integrating multiple charge point operators (CPOs) to improve NEV users' charging experience.

Figure 2:NEV Consumers' E-range Requirements



Source: Deloitte China NEV Consumer Survey 2018



Technology: NEVs are undoubtedly the best carriers of smart technologies. So, when new technologies are integrated into the automotive industry, NEVs will have an advantage in the adoption of advanced smart technologies. This, in turn, will help accelerate NEVs' transformation into smart products controlled by smart systems—from simple transportation tools to "intelligent, mobile spaces." Intelligent connectivity will bring new development opportunities for NEVs, with OEMs and cross-sector entrants alike prioritizing EVs-plus-connectivity investments to grab opportunities in the automotive revolution.



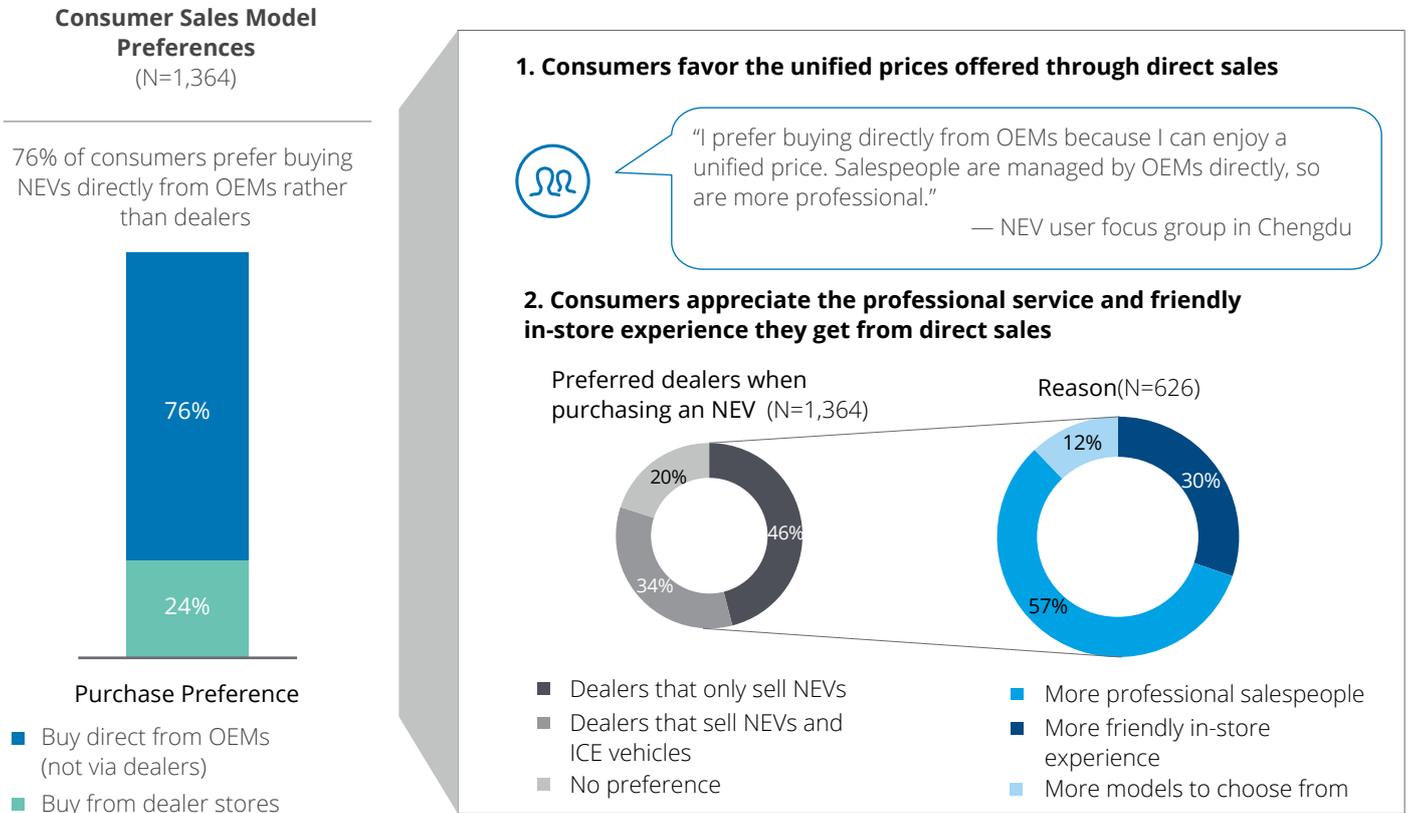
Customer preferences: NEVs are a product of the internet era. Their users inevitably demand intelligent technology and connectivity. In Deloitte's NEV consumer survey, about 70 percent of respondents said they expect innovative technologies to be used to the fullest extent in NEVs, including features such as large, smart screens, and multipurpose, flexible internal layouts. This is seen as a key advantage of NEVs over ICE vehicles. Additionally, intelligent safety functions are becoming the most preferred differentiating selling point of NEVs.

3. Balancing user experience and cost efficiency is key to cracking direct sales model

Emerging NEV players are disrupting automotive retail through a direct sales model. This inevitable, irreversible trend brings to consumers a new brand experience, including self-built and self-run innovative service offerings throughout the product lifecycle. It also solves many of the problems of traditional dealership models, such as lack of price transparency and a poor service experience.

However, the direct sales model is a "double-edged sword" wherein user experience improvements inevitably mean huge capital demands and operational complexity. NEV companies may find it difficult to balance user experience and cost efficiency, so the direct sales model is not a "one-size-fits-all" approach. (Figure 3)

Figure 3:NEV Consumers’ Sales Model Preferences



Source: Deloitte China NEV Consumer Survey 2018

It is impractical for traditional OEMs to transition directly from a dealership system to a direct sales model. However, the new model is winning over consumers with its transparent pricing and elevated in-store experiences. To get it right, traditional OEMs will have to focus on cross-channel integration and align their innovations with the direct sales model. Balancing user experience and cost efficiency is key to a successful retail transformation.



Online and offline channel collaboration: Through collaboration between offline and online channels such as official applications, mobile phone apps, e-commerce, virtual experience centers, and user clubs, NEV companies can attract, develop, convert, and retain users more efficiently. A seamless online-offline integration and user-centric design will enable them to enhance the user lifecycle experience and operational efficiency.



Format innovation by breaking down traditional 4S (sales, spare part, service, survey) store functions: The revocation of government regulations on single OEM brand authorization for dealer stores will enable dealers to separate their sales and aftersales functions further, greatly increasing flexibility in sales format innovation and network development. Separating services from sales, bringing products closer to users, and concentrating services in the suburbs to optimize costs can, to some extent, help balance the relationship between user experience and rising costs.

4. China's NEV market likely to see a period of consolidation

Accounting for almost half of the global market, China's NEV market is attracting substantial investments from domestic and international OEMs. Local established brands hold a secure lead in market share over foreign players. However, with the rapid emergence of foreign, joint venture (JV), and local OEMs, China's NEV market will enter an era of intense competition from 2020.

Given the importance of speed in this market, local traditional OEM leaders will take action to improve their capabilities quickly throughout the value chain in a bid to maintain their advantage. OEMs that lag behind in planning and transformation will become "foundries" focused on manufacturing across the value chain.

Traditional foreign and JV brands, meanwhile, will hasten to enter the market and launch products with a view to capture the end consumer and avoid being sidelined.

The next two years are critical for the survival of new emerging players that have not yet come to the stage of large-scale vehicle delivery. Most of them will be squeezed out of the market. This could be caused by: First, the huge capital requirements of direct sales models; second, weak supply chain controls leading to uncertainties in mass production; and third, the lack of core NEV technologies. Even market-leading NEV makers are not profitable yet. Therefore, if the business models of emerging players' are not profitable, many of them will face financial constraints and be eliminated.

In addition to traditional OEMs and emerging players, financial giants from other industries, such as Foxconn and Evergrande, are also investing across the industry value chain through acquisitions and JVs, or fighting for market share via horizontal integration in the same tier of the value chain.

China's NEV market is big, but not big enough to accommodate the nearly 500 registered NEV companies. In the next two to three years, the market is likely to see consolidation with many of these companies being eliminated. Only the smartest and most profitable will survive.

5. Evolving value chain will change automotive industry's profit structure

In recent years, NEVs have expanded the traditional automotive industry value chain from upstream to downstream. The upstream now

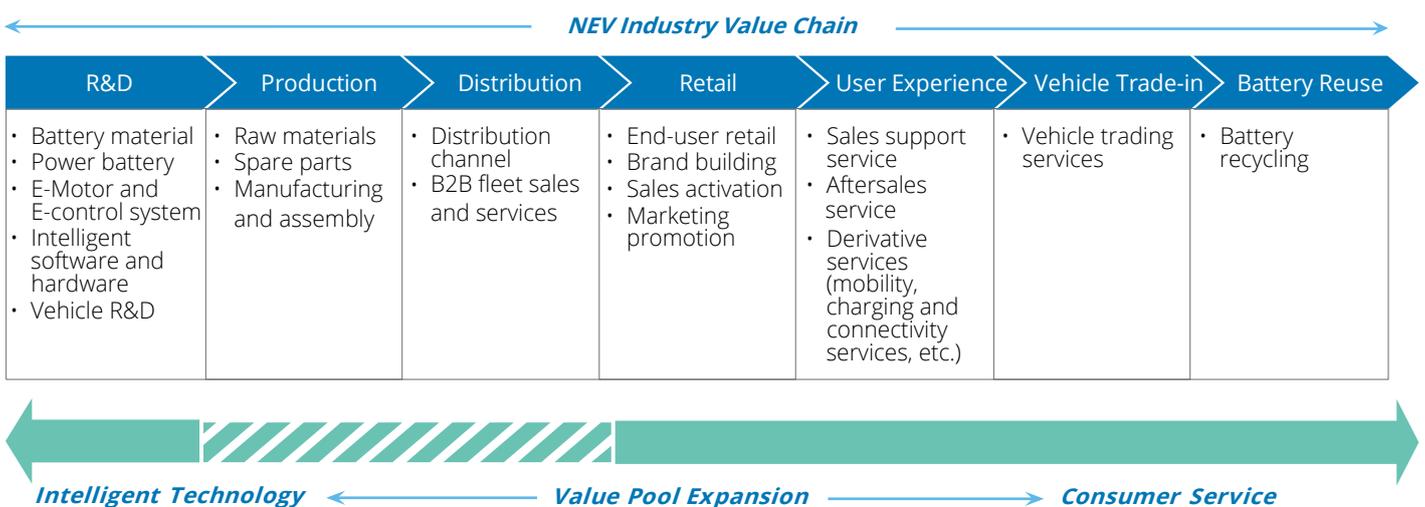
extends to the power battery and intelligent technology sectors, while the downstream extends to retail, user lifecycle services, battery recycling, and other elements of the end-user market. Value chain evolution is driving the development of the industry ecosystem and activating the capital chain as well. It is prompting emerging NEV companies and established players from other sectors such as artificial intelligence (AI), internet technologies, 5G telecommunications, battery material, and energy interconnection to accelerate their investment across the value chain.

The industry's profit structure is set to change as well, with profit from upstream vehicle R&D shifting to power batteries and intelligent technologies. Autonomous driving-related software and hardware, in particular, will contribute more value to the industry. However, this segment

is dominated by smart technology companies and Tier 1 suppliers.

Midstream and downstream profits will transition from vehicle manufacturing and sales to end-user services. As a result, derivative and innovative services covering the entire user lifecycle will become important value pools, offsetting the impact of profit declines in manufacturing, sales, and traditional aftersales services. The midstream and downstream markets will become the main battlefields for NEV companies, which they will try to win through business model transformations and innovation. In the subsequent section, we will discuss positioning and investment across the value chain, besides suggesting reasonable strategies for NEV companies according to changes in the profit structure. (Figure 4 and Figure 5)

Figure 4: NEV Industry Value Chain and Value Pool Adjustment

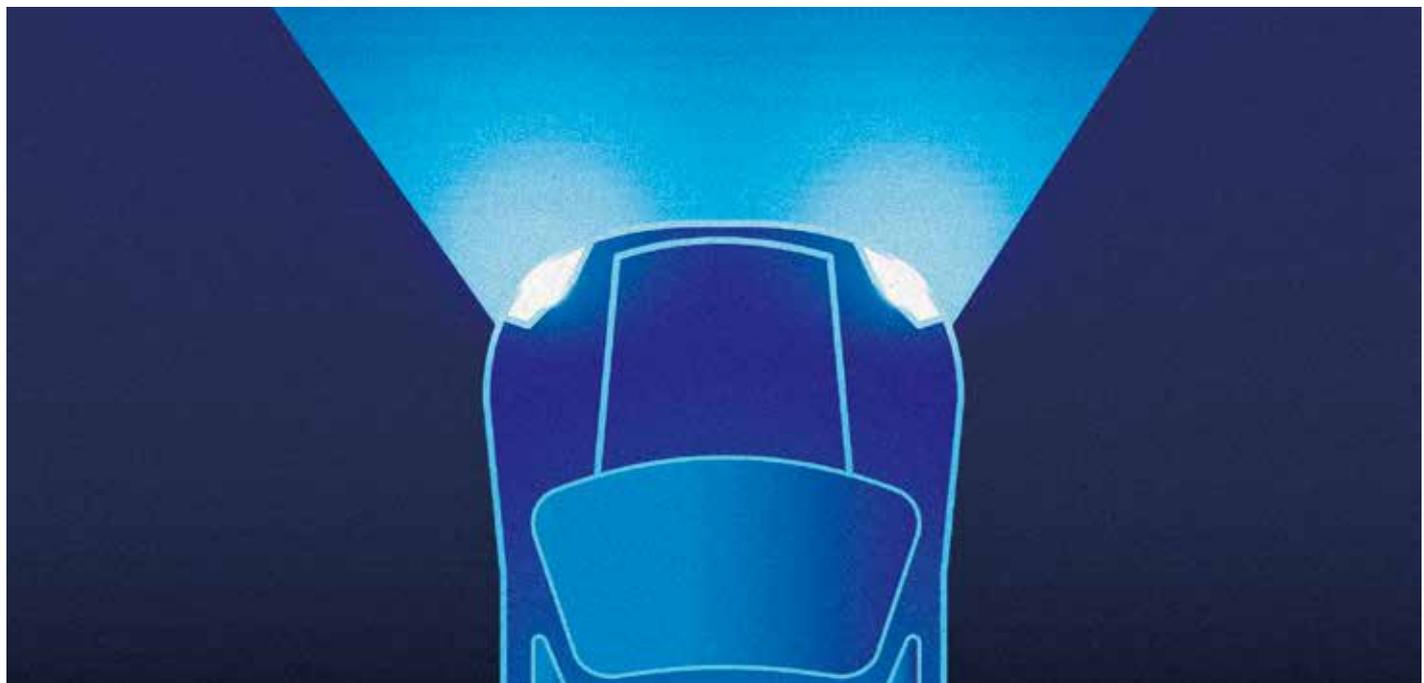


Source: Deloitte analysis

Figure 5: NEV Dealer Store Profit Structure Change

4S Dealer Store Profit Structure	Traditional ICE <i>(total 100%)</i>		BEV Profit Change	
1. New car sales	2~3%	Basically unchanged	→	
2. Aftersales service <i>(Labor and parts)</i>	60%	Sharp decline	↓	Upgrade aftersales model to reduce cost per vehicle
3. Derivative services <i>(F&I/ accessory)</i>	35%	Basically unchanged	→	
4. Used car business Ireland	1~2%	Uncertain	?	
5. Innovative services <i>(charging/battery/in-car services)</i>	/	Potential profit increase point	\$	Innovate derivative services to drive new revenue

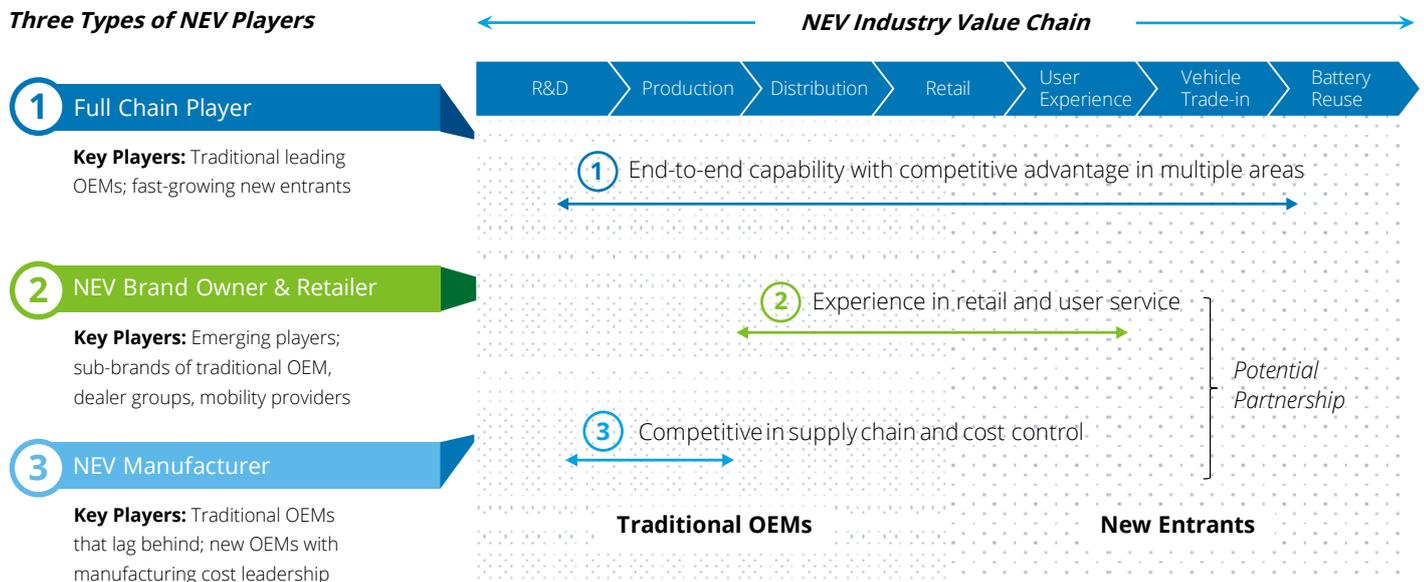
Source: Deloitte analysis



Three value chain position models and their core capability requirements

How should NEV companies seize opportunities in the transforming value chain to rebuild their profit models? Their priority should be choosing "where to play"-that is, defining positioning and business scope as the foundations of NEV strategy development. We expect there to be three types of NEV players in the future market: (Figure 6)

Figure 6: Three Types of Value Chain Positioning



Source: Deloitte analysis

Type 1: Full-chain player

Most full-chain players will emerge from established traditional OEMs and leading new entrants in the field. To gain end-to-end value chain capabilities, both types of players need to develop new capabilities while tapping into their advantages. So, traditional OEMs need to shift their focus from manufacturing to new retail and customer services, transforming from traditional B2B models to user-centric businesses covering vehicle sales, service delivery, and daily operations. On the other hand, new entrants need to explore R&D and manufacturing besides developing capabilities such as core technologies, vehicle design and development, supply chain management, and production and assembly.

Therefore, to gain leadership in the market, full-chain players need to build competencies in advanced technologies, product innovation, sales and retail models, advanced user experiences, data-driven digital ecosystems, and cost efficiency in operations.

Type 2: NEV brand owner and retailer

Most NEV brand owners and retailers will emerge from small, emerging NEV

companies, sub-brands of traditional OEMs, established dealer groups, and mobility services providers. With substantial experience in retail and user services, they are adept at innovating user-centric sales and service models to enhance NEV brand value.

This type of NEV players need to ask themselves three key questions while developing their core competencies:

- How can we create differentiated product and service offerings to penetrate our target markets?
- What new, user data-based businesses should we develop to generate new revenue streams and drive greater profitability?
- How can we think ahead to lead the new retail transformation and innovate user experience?

Moreover, Type 1 and Type 2 NEV players need to calculate the profitability of their business models comprehensively, not partially. Sales and service model innovation and transformation involve a combination of differently positioned product and service offerings, some of which are profit-driven, some branding-focused, some scale-oriented, and some competition-based. This means the evaluation indicators and assessment

metrics they use should vary according to their positioning. Their ability to innovate and the likelihood of a successful transformation will reduce sharply if they're driven by a single profitability indicator.

Type 3: NEV manufacturer

Most of these NEV companies will be traditional OEMs who are lagging behind their peers in NEV development, or newly established players with manufacturing cost leadership. They will produce and assemble vehicles (or just vehicle chassis and bodies) for industry partners, achieving operational and cost efficiencies and profitability through economies of scale.

Cost control and supply chain management will be these OEMs' essential core capabilities. With growing demand for personalization and fast-changing market competition, it will be increasingly important to improve supply chain response capability and realize flexible manufacturing and production using digital, AI, and big data technologies.

Creating a strategic framework for NEV layout design

To meet value chain proposition and capability requirements, stakeholders in the automotive and NEV industry need to give some serious thought and determine how to develop suitable NEV strategies. Under our proposed strategic thinking framework, the first question they need to ask themselves is: *What value and experiences should*

we offer to our users? The short answer is: Only products, services, and experiences that address pain points and meet user demand can create value and win in the market.

The second question is: *How do we structure business models to create value with greater efficiency and lower*

costs? There is no single or infallible approach to strategic planning, but we have drawn up this framework to help NEV companies in their strategic planning efforts, enabling them to focus on key issues and succeed with greater accuracy and efficiency. Here's a deep dive into these two questions: (Figure 7)

Figure 7: Strategic framework for NEV layout design



Source: Deloitte analysis

What value and experiences should NEV companies offer their users?

NEV companies need to put "user-centricity" at the heart of every touch point-from product and service to channel and engagement. Here are the four aspects they need to keep in mind to ensure this:

A1. Brand positioning

Clear brand positioning is the first step in developing an NEV business as it will determine the design of every user experience. To begin with, NEV companies need to define their target markets and user groups in line with their corporate visions and business goals. They also need to define their brand value propositions and key differentiators by identifying white space and opportunities in an increasingly competitive business landscape.

Traditional players also need to consider the brand architecture of their NEV businesses. They need to figure out whether they should develop a new product series to support the main-subsidiary brand relationships endorsed by existing brands or establish brand new NEV brands to form parent-child brand frameworks. If they choose the latter, should they opt for endorsements or parallel relationships? What kind of brand relationship do they want across marketing, sales, services, and other operating activities? Traditional OEMs need to address all these questions to determine their brand positioning.

A2. Product experience

Products are a key carrier of brand value, which makes product experience a crucial factor in driving brand awareness and accelerating market penetration. Today's users want intelligent, connected functions

and human-centric design. So, NEV companies should prioritize these factors while defining their product differentiation.

Driving performance and vehicle design are two other areas NEV companies need to focus on. Driving range, acceleration capability (0-100km/h), and maximum speed are the key indicators users refer to while comparing driving performance. Young consumers and a fast-growing cohort of female buyers pay close attention to vehicle design and demand vehicles with personalized, fashionable exteriors, and stylized interiors. To enhance product competitiveness, NEV companies should focus on designing vehicles with deeply integrated, intelligent connectivity that provides differentiated and personalized driving experiences. (Figure 8)

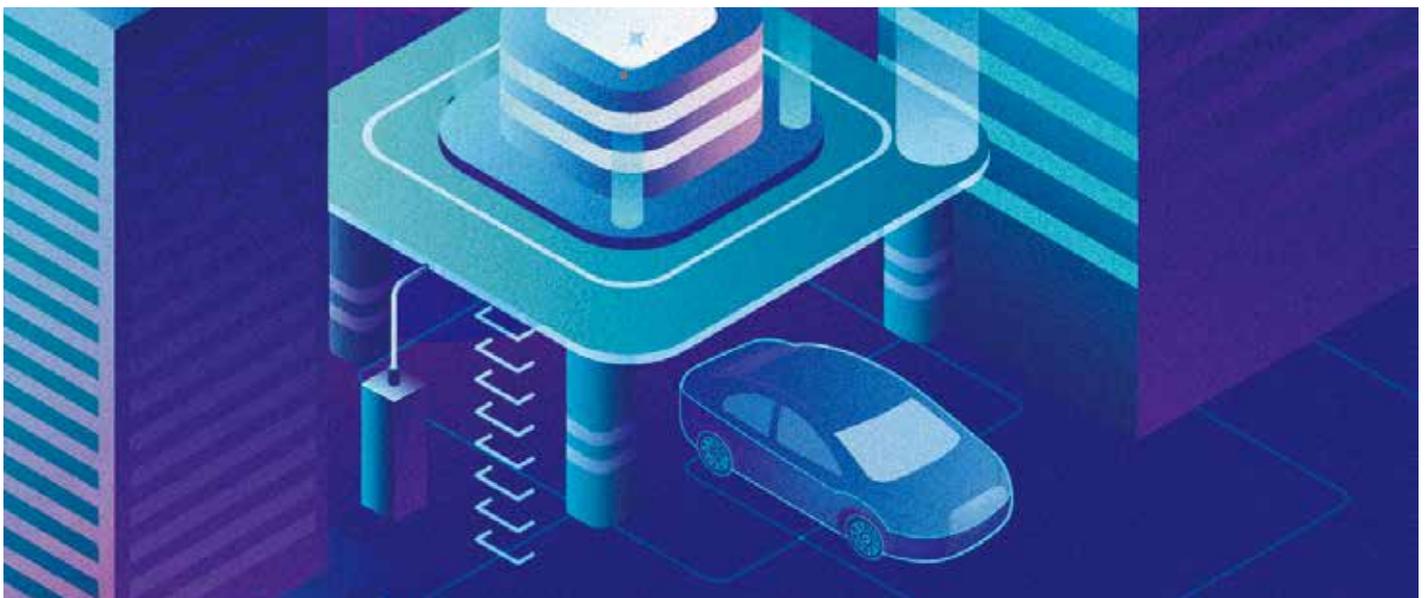
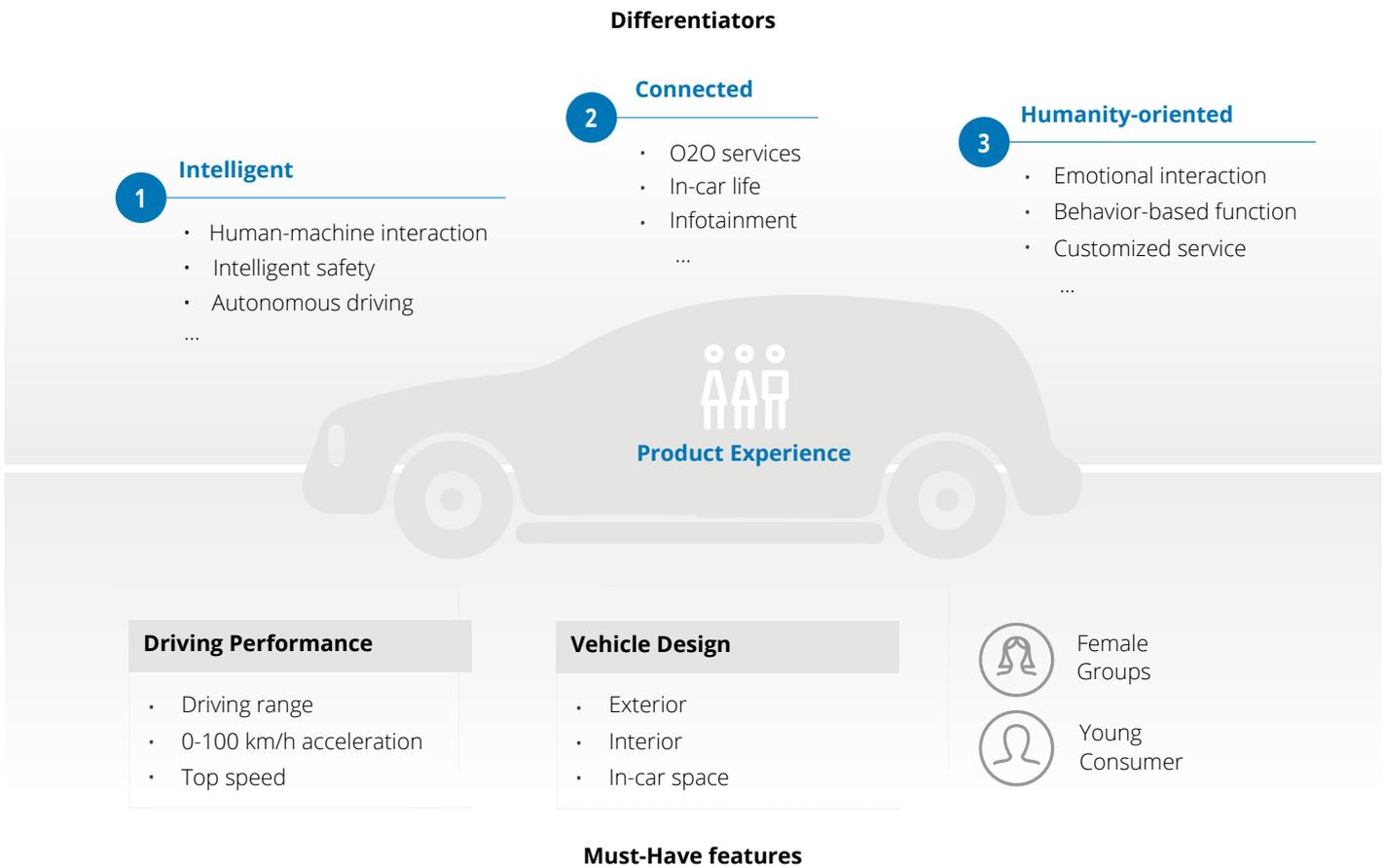


Figure 8: NEV Product Experience Design



Source: Deloitte Analysis

Sales volume and market share have a massive influence on brand value and reputation. This means that estimating the total addressable market (TAM) is vital for NEV OEMs' market segment selection and product portfolio design. According to Deloitte's NEV sales volume forecasting model, which makes comprehensive predictions of the total volume and the size of each market segment till 2030, the next decade

will see consumers' preference for sport utility vehicles (SUVs) return to a rational level, with equal demand for SUVs and sedans, while demand for multi-purpose vehicle (MPVs) will rise. The mid-and low-tier segments will occupy approximately 75 percent market share, with high-end and luxury NEVs holding about 15%.

A3. Service experience

Service offerings can be defined by the scenarios in which users interact with their NEVs, and this scenario-based approach can help NEVs companies identify consumer needs and wants before coming up with matching services. We suggest NEV companies first focus on the following three main scenarios before developing other sub-scenarios: (Figure 9)

Figure 9: NEV User Service Experience

...During PURCHASE...



Buy or Subscribe

4 out of 10 younger consumers are willing to give up car ownership due to their interest in subscription/ ride-hailing

One-stop Service

FOUR essential service areas for NEV purchase and handover- Charging, Plate, Finance, Insurance...

...In USE...



Worry-free Power

Extending battery warranty, battery upgrades or swaps, emergency/ mobile charging ...

Built-in Tech Enablement

90% of users are willing to pay for in-car hi-tech; pay per use and the subscription model are preferred...

...While DRIVING...



The 3rd Living Space

Customized in-car services provide great driving and lifestyle convenience and enjoyment



Source: Deloitte Analysis

Purchase:

Diversified mobility services are reshaping users' preferences and consumption behavior. NEV companies need to choose from the following scenarios:

Offering vehicle use rights or ownership:

Service offerings based on usage rights transactions have great market potential in China. About 40 percent of young customers will prefer to buy usage rights to a vehicle rather than opt for outright ownership

to enjoy cheaper, more convenient mobility services. NEV companies can gain a larger market share by selling rights to used cars and related services (e.g., charging, insurance, maintenance and roadside assistance) for a certain period. (Figure 10)

Figure 10: NEV Consumers' Preferences on Right to Use Purchases

Percentage of consumers who, due to the availability of mobility services, question the need to own a vehicle



Source: Deloitte Global Automotive Consumer Survey – China Market Data

Offering one-stop purchasing:

Hassle-free charging is a new but strong demand among NEV users and they are willing to pay for it, especially in cities like Shanghai, where a certificate granting access to charging facilities is a precondition for obtaining an NEV license plate.

Long-term use:

In addition to routine aftersales services, NEV users' latest demands are mostly in two categories: power supply and intelligent technologies. Users have a strong demand for services like battery warranty extensions, battery upgrades and replacement, and emergency charging. They are willing to pay as much as 3-5 percent of the purchase price

for these services. The demand and willingness to pay for intelligent technologies-open technology architecture (OTA), advanced driver assistance system (ADAS) upgrades, and pay-per-use or subscription services for intelligent functions-is also on the rise. Among fleet management companies, there is growing demand for IoT-based vehicle management platforms and data-enabled security solutions.

Driving:

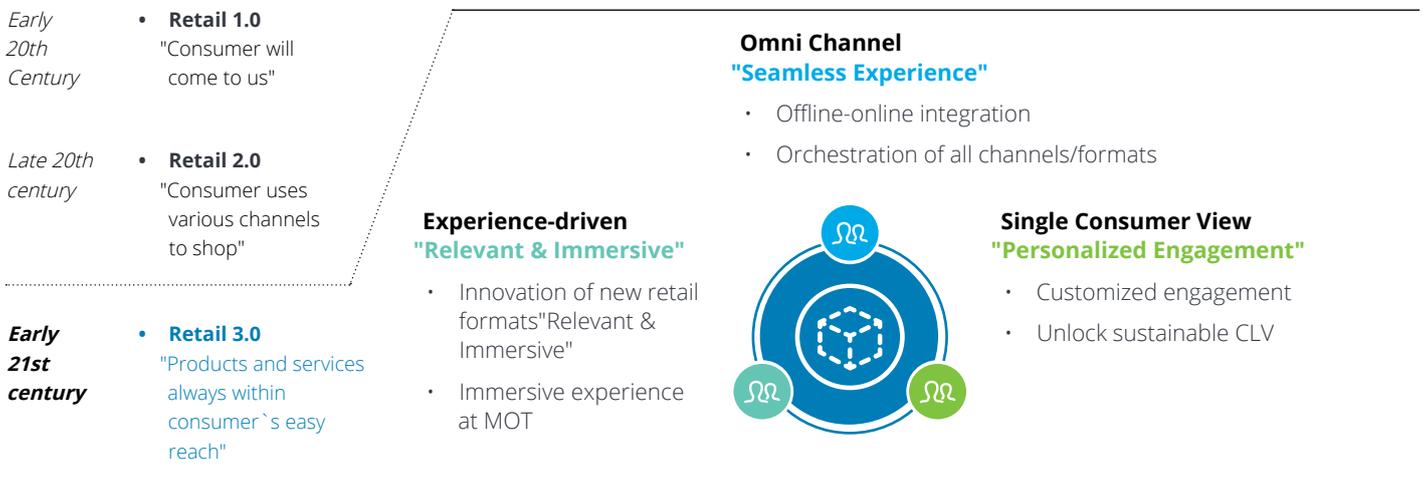
Intelligent, connected EVs are becoming "the third living space," in which users favor customized, individualized services depending on their driving conditions, destinations, journey times and other factors. NEV

companies should consider providing targeted services and content for users in near real-time through data integration and smart analytics as well as tap into revenue sources, such as user-based insurance, data packages, car parking and charging, and e-commerce consumption.

A4. Channel experience

In Retail 3.0 (a blend of technology with brick-and-mortar stores), products and services must always be within the easy reach of consumers. In such a scenario, we suggest NEV companies adhere to the following three principles to elevate their channel experience for their customers: (Figure 11)

Figure 11:Channel Experience Design



Source: Deloitte Analysis

Strong digital presence:

Digital channels help brands achieve the widest coverage and longest interactions (24x7). As new media preferences are shaped by advances in augmented reality (AR) and virtual reality (VR) technologies, the roles of NEV OEM digital channels will diversify.

Digital channels can be leveraged for virtual product experiences, online vehicle checks, online-to-offline (O2O) service booking and many other services. Alongside self-owned digital channels, third-party e-commerce and O2O service platforms have become important supplementary channels

through which NEV OEMs can enhance their digital presence.

User-centric offline channels:

Offline channels remain the most important touchpoints for sales conversions and user experiences. Greater proximity to users means

higher brand and product exposure, as well as more sales opportunities. Based on trends analysis, NEV companies could break down traditional 4S store functions to create new offline retail formats-pop-up and guerrilla stores, brand zones and exhibition booths, and mobile sales forces-thereby getting closer to users at a limited cost. Meanwhile, NEV companies can also leverage new third-party retail formats, such as car supermarkets and car malls, attracting more consumers to switch to their brands.

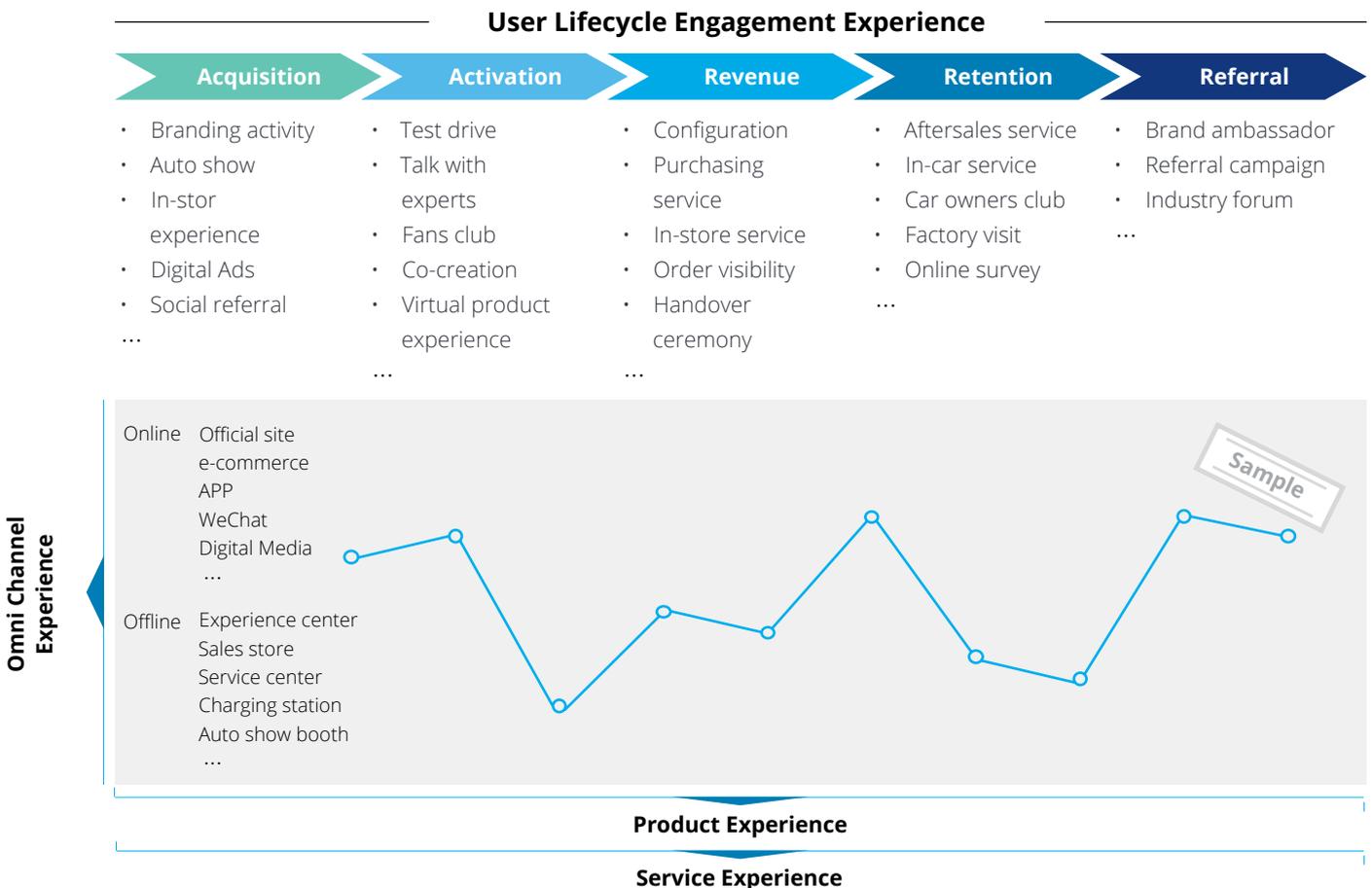
Integrated omni-channel experiences:

Whether online or offline, seamless cross-channel integration and collaboration is key to crafting user-centric channel experiences. NEV companies need to establish a "single-user view" by integrating every data point across every channel to ensure a seamless, consistent experience. The goal is not collecting data, but rather using it to create value. NEV OEMs can share, integrate, and analyze data to develop more value-added application scenarios through strategic cooperation with internet companies and service providers.

A5. Engagement experience

Users are not just buyers, they are a company's most valuable assets. Users can participate in product R&D, brand building, service innovation, and every aspect of a company's development. So, it's imperative that NEV companies visualize and build the entire user lifecycle rooted in continuous engagement across user stages-prospect, fan, and buyer to loyal user and even company advocate. Engagement experiences must be backed by omni-channel touchpoints across brands, products, and services. (Figure 12)

Figure 12:User Engagement Experience Design



Source: Deloitte Analysis

How should business models be structured to achieve these value objectives?

B1. Design a sales model to come closer to the user

The NEV industry is exploring sales model transformations that bring it closer to users. Emerging players have inspired the industry with their direct sales models and many traditional OEMs are considering transitions to such models. However, these transitions have three pre-conditions:

Product competitiveness:

Unified control of retail prices is essential when an NEV OEM changes to a direct sales model. NEV OEMs can only

maintain their advantages and create pull factors if their products are competitive enough. Product competitiveness is therefore a prerequisite to adopting a direct sales model.

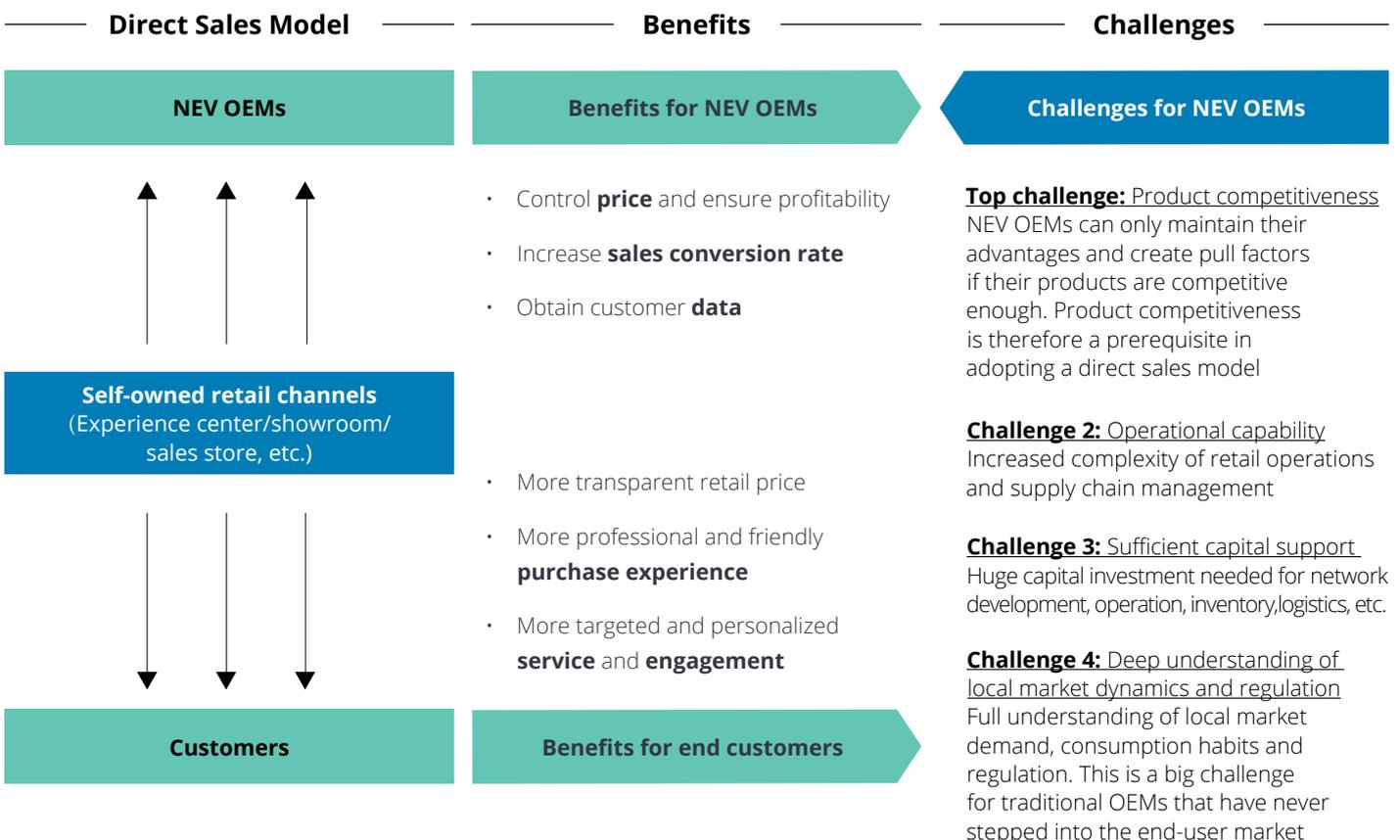
Operational capability:

A direct sales model greatly increases the complexity of retail operations, including store construction and daily operations, personnel management, definitions of roles and responsibilities, logistics development, and inventory management. It also brings production and supply chain challenges, including demand forecast accuracy, production flexibility, and providers' responsiveness.

Sufficient capital support and a deep understanding of local market dynamics and regulation:

Retail network expansions require huge capital investment and a deep understanding of local market demand, consumption habits, and regulation. This is a big challenge for traditional OEMs that have never stepped into the end-user market without dealers at their side. However, recruiting agents and local partners can help them meet this challenge. (Figure 13)

Figure 13: Direct Sales Analysis



Source: Deloitte Analysis

NEV companies create functional subdivisions to demarcate the network. Sales network construction should focus on users' needs and service network construction (delivery and maintenance) should emphasize layout and cost reduction.

B2. Lead data-enabled digital transformations

Digitalization is inevitable if NEV companies are to achieve intelligent product upgrades, service-oriented transformations, flexible production, and demand-responsive supply chains. In essence, digitalization deals with data of the following types:

Vehicle data

A vital foundation of intelligent technology R&D, including product development and autonomous driving

innovations, vehicle data includes working condition information, vehicle monitoring metrics, map details, external scenarios, and infrastructure.

User data:

This is the basis of accurate content distribution and personalized service recommendations and interactions. It mainly includes driver and passenger behavior, software and hardware use data, as well as engagement data across all channels.

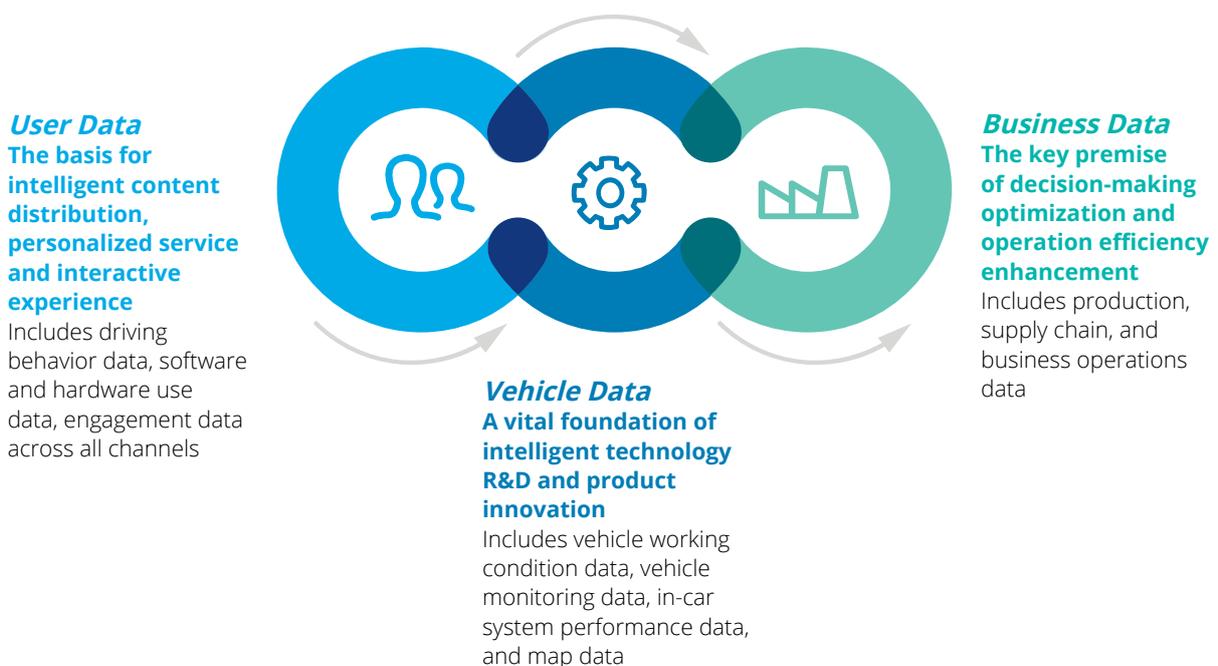
Business data:

This mainly refers to production, supply chain, and business operations data. Production and supply chain data are essential to reduce costs, improve efficiencies, optimize supply chain management, and improve the efficiency of supply chain collaboration with

upstream and downstream partners. Business operation data is a key premise of decision-making optimization and accurate resource allocation.

We suggest that NEV companies implement their digital transformations in stages, in accordance with their business development priorities and associated demand for data. They should eventually look at establishing big data computing and intelligence platforms by integrating and analyzing data throughout the value chain. This will enable R&D, product and service innovations, user management, smart production and supply chain management, and, ultimately, business transformations. (Figure 14)

Figure 14: NEV OEMs Data Assets



Source: Deloitte Analysis

B3. Build partnership ecosystems

Going forward, the NEV industry will only witness tougher competition and building close collaboration ecosystems is the only way to thrive. According to our value chain analysis, NEV companies, internet and high technology companies, and Tier 1 suppliers are essential components of the NEV industry. We suggest NEV players develop partnership strategies across the following four dimensions:

Intelligent technology development:

All NEV players need to develop this type of partnership, which mainly involves high-tech companies with autonomous driving and connectivity technology.

Manufacturing:

It is critical that NEV companies develop long-term strategic partnerships with NEV manufacturers.

Distribution and retail:

These partnerships should be determined by sales models. For NEV players with direct sales models, agent recruitment is an effective way to address capital and operational issues, as well as to eliminate local market entry barriers. NEV players with traditional distribution models will have more channel partner options as new retail transformation and 4S functions separate.

Service innovation and delivery:

NEV players need to work with different professional services providers to innovate and deliver a varied portfolio covering traditional aftersales, charging, mobility, and in-car lifestyle services.

Collaboration models can be designed based on partnership types, fields of cooperation, and negotiating strength. They can also be diversified through equity stake collaborations, such as JVs and financial investments, as well as cooperation on projects such as data sharing, technology R&D, single product development, OS platform construction, and application service customization.



B4. Manufacturing and supply chain models: The best approach

Two of the major challenges NEV OEMs face while deciding on their production and supply chain operating models are building new sales models and vehicle customization. The first challenge involves finding the best balance between inventory costs and order to delivery (OTD) under a direct sales model. The second requires NEV OEMs to build supply chain capabilities that can cater to personalized user demand and take on fast-changing market competition.

In traditional sales models, the inventory maintained by dealers provides a large buffer zone for OEMs. However, in direct sales models, OEMs have to take on the entire inventory and the related costs. If they continue to use the traditional build-to-stock (BTS) model, OTD time can be guaranteed, but inventory pressure will increase. To manage inventory at a lower level, OEMs need to improve the accuracy of their demand predictions by applying big data and advanced algorithm models.

Some leading OEMs are adopting build-to-order (BTO) models, which follow an order-driven production approach. However, these too have pros and cons: On one hand, they allow OEMs to realize on-demand production and decrease their inventory levels, but, on the other, they increase production costs and complexity and extend OTD periods. It is, therefore, essential to ascertain the right degree of BTO and balance user expectations and inventory management. Enhanced OTD experiences (such as ETA dashboards) and production flexibility will also help address the challenges BTO models present.

To meet customization demands and respond quickly to market changes, traditional inside-out supply chains should be transformed gradually into outside-in, data-driven, and intelligent supply chains. Here are three steps to achieve this:

- First, the customization level of vehicle configurations should be defined and used as the basis for a customer-centric, responsive supply chain.

- Second, systems and data integration should be pursued with upstream suppliers and downstream partners so order visibility can be synchronized in near real time.
- Third, long-term strategic partnerships instead of short-term transactional relationships should be established with upstream and downstream partners, helping improve the agility and adaptability of the entire supply chain.

Are you ready for the changes ahead?

As the saying goes, "Those who observe the situation are clear, those who follow the trend are wise, and those who lead the trend are dominant." It is only by following this maxim that NEV companies can survive amid the fierce competition they're facing.

In this article, we have shown them the path ahead. Based on our analysis of the five future trends in China's NEV market, restructuring of the industry value chain will be the most important strategic consideration for NEV companies. We also analyzed three potential future value chain models and their core capability requirements before introducing a strategic framework that NEV OEMs can consider while planning their positions.

Of course, strategic planning alone is not enough to help OEMs transform as their industry shifts from being policy-driven to market-driven. OEMs must embrace innovation in technology, model, format, and collaboration. However, they can't expect to have an innovative business model ready at hand for takeoff. Any model that they adopt will need to be adjusted and optimized according to the operating and competitive conditions before being fine-tuned and ready for implementation. Innovation strategies and tactics will be unique to each company.

Endnotes

1. Echo Huang, "Electric vans from one of China's biggest EV makers are catching fire," Quartz, March 10, 2019.

Contacts

Marco Hecker

China Auto Sector Leader
mhecker@deloitte.com.hk

Andy Zhou

Auto Consulting Leader
andyzhou@deloitte.com.cn

Total Chow

Auto Risk Advisory Leader
totchow@deloitte.com.cn

Yi Zhou

Auto Tax and Legal Advisory Leader
jchow@deloitte.com.cn

Wilson Liu

Auto Audit & Assurance Leader
wliu@deloitte.com.cn

Michael Yu

Auto Financial Advisory Leader
micyu@deloitte.com.cn

Authors

Marco Hecker

China Auto Sector Leader
mhecker@deloitte.com.hk

Andreas Maennel

Auto Consulting Partner
amaennel@deloitte.com.cn

Jeff Mou

Auto Consulting Senior Manager
jemou@deloitte.com.cn

Office locations

Beijing

12/F China Life Financial Center
No. 23 Zhenzhi Road
Chaoyang District
Beijing 100026, PRC
Tel: +86 10 8520 7788
Fax: +86 10 8518 1218

Changsha

20/F Tower 3, HC International Plaza
No. 109 Furong Road North
Kaifu District
Changsha 410008, PRC
Tel: +86 731 8522 8790
Fax: +86 731 8522 8230

Chengdu

17/F China Overseas
International Center Block F
No.365 Jiaozi Avenue
Chengdu 610041, PRC
Tel: +86 28 6789 8188
Fax: +86 28 6317 3500

Chongqing

43/F World Financial Center
188 Minzu Road
Yuzhong District
Chongqing 400043, PRC
Tel: +86 23 8823 1888
Fax: +86 23 8857 0978

Dalian

15/F Senmao Building
147 Zhongshan Road
Dalian 116011, PRC
Tel: +86 411 8371 2888
Fax: +86 411 8360 3297

Guangzhou

26/F Yuexiu Financial Tower
28 Pearl River East Road
Guangzhou 510623, PRC
Tel: +86 20 8396 9228
Fax: +86 20 3888 0121

Hangzhou

Room 1206-1210
East Building, Central Plaza
No.9 Feiyunjiang Road
Shangcheng District
Hangzhou 310008, PRC
Tel: +86 571 8972 7688
Fax: +86 571 8779 7915 / 8779 7916

Harbin

Room 1618, Development Zone Mansion
368 Changjiang Road
Nangang District
Harbin 150090, PRC
Tel: +86 451 8586 0060
Fax: +86 451 8586 0056

Hefei

Room 1201 Tower A
Hua Bang ICC Building
No.190 Qian Shan Road
Government and Cultural
New Development District
Hefei 230601, PRC
Tel: +86 551 6585 5927
Fax: +86 551 6585 5687

Hong Kong

35/F One Pacific Place
88 Queensway
Hong Kong
Tel: +852 2852 1600
Fax: +852 2541 1911

Jinan

Units 2802-2804, 28/F
China Overseas Plaza Office
No. 6636, 2nd Ring South Road
Shizhong District
Jinan 250000, PRC
Tel: +86 531 8973 5800
Fax: +86 531 8973 5811

Macau

19/F The Macau Square Apartment H-N
43-53A Av. do Infante D. Henrique
Macau
Tel: +853 2871 2998
Fax: +853 2871 3033

Mongolia

15/F, ICC Tower, Jamiyan-Gun Street
1st Khoroo, Sukhbaatar District, 14240-
0025 Ulaanbaatar, Mongolia
Tel: +976 7010 0450
Fax: +976 7013 0450

Nanjing

6/F Asia Pacific Tower
2 Hanzhong Road
Xinjiekou Square
Nanjing 210005, PRC
Tel: +86 25 5790 8880
Fax: +86 25 8691 8776

Shanghai

30/F Bund Center
222 Yan An Road East
Shanghai 200002, PRC
Tel: +86 21 6141 8888
Fax: +86 21 6335 0003

Shenyang

Unit 3605-3606, Forum 66 Office Tower 1
No. 1-1 Qingnian Avenue
Shenhe District
Shenyang 110063, PRC
Tel: +86 24 6785 4068
Fax: +86 24 6785 4067

Shenzhen

13/F China Resources Building
5001 Shennan Road East
Shenzhen 518010, PRC
Tel: +86 755 8246 3255
Fax: +86 755 8246 3186

Suzhou

23/F Building 1
Global Wealth Square
88 Su Hui Road, Industrial Park
Suzhou 215021, PRC
Tel: +86 512 6289 1238
Fax: +86 512 6762 3338 / 3318

Tianjin

45/F Metropolitan Tower
183 Nanjing Road
Heping District
Tianjin 300051, PRC
Tel: +86 22 2320 6688
Fax: +86 22 8312 6099

Wuhan

Unit 1, 49/F
New World International Trade Tower
568 Jianshe Avenue
Wuhan 430000, PRC
Tel: +86 27 8526 6618
Fax: +86 27 8526 7032

Xiamen

Unit E, 26/F International Plaza
8 Lujiang Road, Siming District
Xiamen 361001, PRC
Tel: +86 592 2107 298
Fax: +86 592 2107 259

Xi'an

Room 5104A, 51F Block A
Greenland Center
9 Jinye Road, High-tech Zone
Xi'an 710065, PRC
Tel: +86 29 8114 0201
Fax: +86 29 8114 0205

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