



A new relationship – people and cars

How consumers around the world want cars to fit their lives

Executive Report

Automotive

How IBM can help

Today's cars are evolving from a mode of transport to also serve as a new kind of moving data center with onboard sensors and computers that capture information about the car. Using such real-time data, IBM helps auto executives provide new services that the connected consumer needs and expects from the car experience. Our combined strength in manufacturing and depth of global automotive expertise can address consumer concerns about safety and quality. Innovative technologies such as Watson for analytic capabilities can meet OEM and supplier needs, including products and services that are more secure and reliable to enable higher brand loyalty and customer satisfaction.

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Driving in the next decade

Conventional automotive industry wisdom warns executives that people are losing interest in cars. Our analysis of findings from over 16,000 respondents clarifies that people will engage with cars – and cars with people – in new ways. The car will remain a key fixture in personal transportation. Although consumers still expect to use cars differently, they don't necessarily want to own one in the traditional sense. Globally, consumers are ready for industry innovation that is deepening their connections with cars and the expanding Internet of Things (IoT). And so, new mobility options will soon transform consumers' lives and expectations.

Executive summary

Digital technologies, lifestyle expectations and personal mobility options are changing the outlook on how consumers will move around and what they expect from companies that support them. Changes in how people move from one point to another and their levels of “digital mobility interest” determine how open and ready consumers are for future mobility solutions. Clearly, auto industry executives have a tremendous stake in understanding what current and future automotive (auto) consumers already do, as well as what they say they plan to do.

For this second part of our “Auto 2025” series, we surveyed consumers to develop an informed view of how they will own and use vehicles over the next decade. This report reveals important consumer perspectives, based on a survey of 16,469 consumers in 16 countries. In search of greater effectiveness, efficiency and safety, they expect intuitive, automated and personalized mobility experiences through digital capabilities and services. Consumers also expressed a greater desire to both co-create mobility solutions and buy vehicles through preferred channels and ecosystem participants.

One recurring and notable difference of opinion: consumers in growth markets were consistently more eager to try vehicle and mobility innovations – they base their decisions on perceived value, rather than mature market consumers who seem content to wait for proven value. The reaction of consumers in growth markets to new technology can be summed up as a “When can I have it?” mentality. Those in mature markets were more hesitant, with responses that reflect the question, “Why do I need it?”



86% of more than 16,000 respondents in 16 countries **expect to own or drive a car** in the next ten years.



Surveyed consumers 35 and older **expect their use of personal cars as the primary mode of transportation to drop by 22%**; they foresee more than doubling their use of car- and ride-sharing.



37% of respondents were **very interested in submitting ideas** to co-create new automotive products and mobility services.

Our first Auto 2025 report, “Automotive 2025: Industry without borders” featured the opinions of 175 global industry executives, including OEMs and suppliers.¹ It suggested three disruptors to the industry over the next decade: empowered consumers, changing mobility models and a transforming ecosystem.²

In this new report is our analysis of what more than 16,000 consumers worldwide said about the industry – particularly, how they personally expect to use vehicles in the next ten years. Even the meaning of “driving” is expanding much beyond “steering a vehicle” as the consumer’s relationship with the car is changing. In the future, the car will know who the occupants are, make decisions for them, and even be a trusted companion. Consumers are eager to welcome the car as another smart device – albeit one weighing 3,000 pounds – that is embedded in the Internet of Things (IoT).

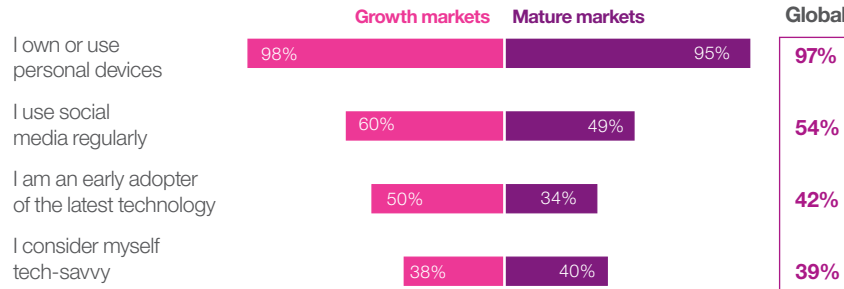
Auto consumers reveal their changing requirements

Digital maturity of consumers

Still often complicated to use, digital vehicle technologies will remain less attractive to those consumers who don't see themselves as tech-savvy, early adopters. Those in both growth and mature markets are similar in assessing their own "tech-savviness" (38 percent of growth market respondents, versus 40 percent in mature markets), and their ownership or use of personal devices (98 percent emerging, 95 percent mature). The most striking digital maturity differences between market types are apparent in social media use and how many respondents identify as "early adopters" (see Figure 1).

Figure 1

Indicators of maturity in using digital technologies



Sources: Q19. Percentage who said "Yes," to "Do you own/use any personal devices? (for example: smart phone, tablet, laptop)?" Q18a. Percentage of respondents who "highly agree" with each of the three statements.

I don't necessarily need my own car

People want the convenience of cars, but not necessarily with a traditional ownership model. Eighty-six percent of people we surveyed said they will own a car sometime during the next ten years – this includes some of the 14 percent of people who said they couldn't afford to buy a car today. Another 5 percent said they will not own a vehicle, but will still be actively driving. Traditional ownership models will not meet the future expectations of consumers, as 42 percent are very interested in subscription pricing, while another 24 percent of respondents are very interested in fractional ownership of vehicles.

I can get around in new ways

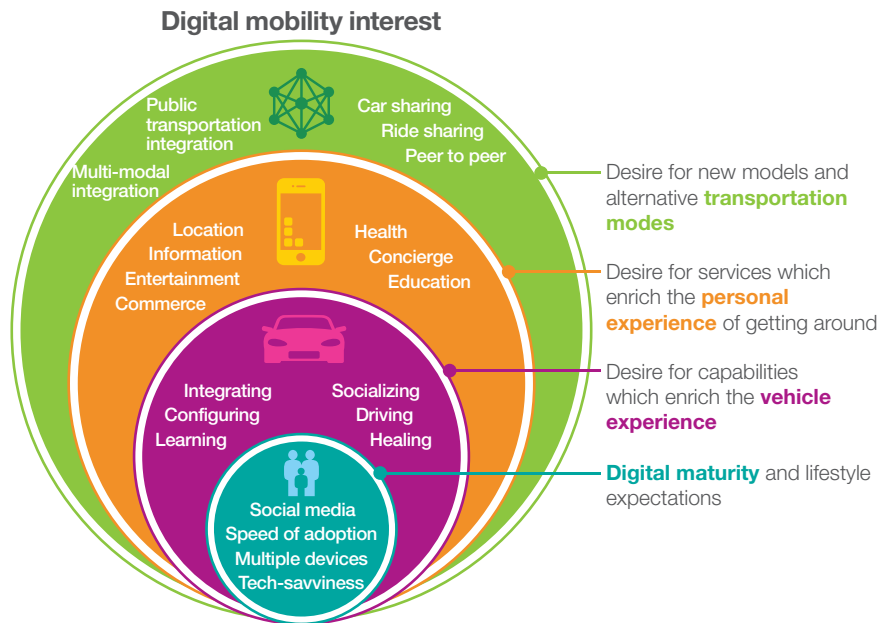
The personal car, as the primary mode of transportation, will continue to be a key fixture in personal transportation, but the priority of when it is used will change. Those age 18-24 start at a low level of car usage – only 50 percent use a car today as their primary mode, versus about 75 percent in other age groups. But for the coming decade, these younger drivers expect a 34 percent increase in the car as the primary mode, compared to a decline of 17 percent for all other age groups.

Match the “bells and whistles” with what I am interested in

In-vehicle digital technology is still complicated and not easy for all to use. Understanding consumers based on their mastery of digital mobility technologies gives greater insight into groups of consumers with like interests, attitudes and expectations. “Digital mobility interest” is a way to understand consumers' views based on their digital maturity and their interest in future mobility solutions (see Figure 2).

Figure 2

Digital mobility interest provides an understanding of the attitudes and expectations consumers will have for future mobility solutions



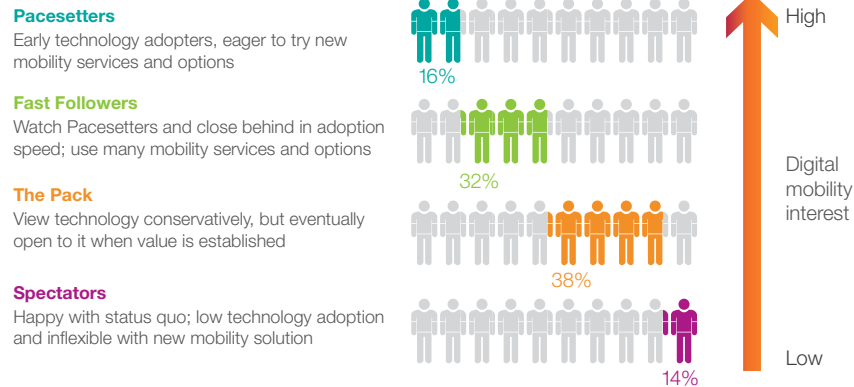
Source: IBM Institute for Business Value analysis.

Consumers who ranked themselves higher in their digital maturity had greater expectations for the new digital innovations in the vehicle and mobility services. The connected capabilities in the vehicle are still underutilized due to the complexity and lack of automation. Consumers who have a higher understanding of technology are more likely to use the connected features than those who don't. Having a higher level of digital maturity will drive greater expectations for new digital innovations. Automakers who appreciate this can do a better job of matching consumers to digital technologies – which, in turn, should driver greater satisfaction with the in-vehicle experience.

Four types of consumers groups have emerged based on their digital mobility interest (see Figure 3). The Pacesetter and Fast Follower groups are the most technologically advanced and together represent 48 percent of study respondents, 67 percent of which are from growth markets. The Pack, which is the largest single group at 38 percent, is somewhat hesitant about future mobility capabilities and services. But this group has the potential to be influenced once they have a better understanding of the value they will receive. Finally, Spectators are happy with the *status quo* and generally inflexible about exploring new mobility solutions.

Figure 3

Cluster analysis showed four distinct consumer groups based on their degree of digital mobility interest



Source: IBM Institute for Business Value analysis.

Understanding consumers through clustering based on their digital mobility interest gives automakers a better chance of aligning consumer abilities with vehicle capabilities – starting from the initial steps of the sales process and continued through vehicle usage. These clusters exist across all of the demographic and geographic groups in the survey, and are unbiased with regard to any certain age or economic segments.

Recommendations: Consumer requirements

Deliver solutions to meet future vehicle usage shifts

- *Develop new ownership models that meet consumer expectations and create alternative revenue streams.* Explore similar models in other industries. Use partnerships and technologies to acquire enabling capabilities, as needed.
- *Create a flexible, innovative brand experience.* Design apps and other tools to integrate the use of the car with other transportation options. Develop an open platform where mobility partners can include their offerings.
- *Enable prescriptive decision making to optimize transportation choices.* Leverage deep analytics and cognitive capabilities to present recommended options. Integrate the consumer's "mobility persona" to create a more personalized experience.

Appeal to consumers through their digital mobility interest

- *Segment the digital experience.* Create consumer profiling scenarios and digital segmentation models as sophisticated as traditional physical segmentation models. Identify consumers based on their levels of digital mobility interest and use this understanding to better match them to the appropriate level of technology in a vehicle, as well as other suitable mobility solutions.
- *Focus on those who are "digitally interested."* Target the Pacesetters and Fast Followers when introducing new digital innovation. Approach these groups for initial responses and then refine new offerings. Build advocates and use them to influence others.
- *Convince the others.* Influence The Pack and even The Spectators with additional information, experiences and demonstrated proven value. Continue to simplify, automate and personalize the digital experience to gain trust and acceptance.

Mobility experiences

Clamoring for self-enabling vehicles (SEVs)

Consumers show a high level of interest in the intelligent, intuitive, self-enabling innovation that 80 percent of industry executives said would be a key differentiator by 2025.⁹ We surveyed consumers on their SEV preferences (see sidebar, “Six SEV groups”). These cars can “take care of” their occupants and themselves, and work with other vehicles and IoT components.

SEV innovations include a range of enhanced car functionality. Leading automakers and suppliers are already developing innovative offerings:

- A major automaker’s self-healing cars will heal small paint scratches within an hour and more deeper scratches within a week.
- A major automaker’s self-socializing cars communicate their positions to traffic lights, then the system suggests the optimal speed to reach the light when it is green – which saves gas and lessens environmental impact.
- A major automaker’s self-learning cars will offer a comprehensive array of services, courtesy of a new learning algorithm. It recognizes who is in the car, and learns driver preferences and driving style.
- A major supplier provides self-integrating capabilities for drivers to control aspects of their homes, such as opening security gates and garage doors, illuminating exterior and interior lighting, activating appliances and disarming home security systems.

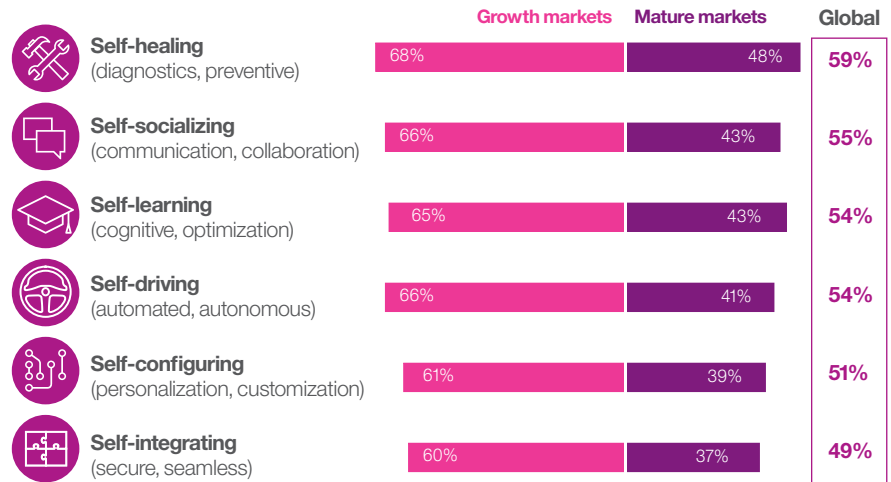
Six SEV groups:

- *Self-healing.* Vehicles fix and optimize themselves without human intervention based on certain events or situations.
- *Self-socializing.* Vehicles connect with other vehicles and the infrastructure around them to share information and solutions.
- *Self-learning.* Vehicles use cognitive capabilities to learn behaviors – of driver, occupants, the vehicle itself and the surrounding environment – to continually optimize and advise.
- *Self-driving.* Vehicles will become highly automated, with some areas of limited autonomous function in controlled environments.
- *Self-configuring.* Individual mobility personas contain necessary (and driver-authorized) digital information about individuals to provide the desired, personalized vehicle experience.
- *Self-integrating.* Like other smart devices, the vehicle will be an integrated component in the IoT.

Consumers were very interested in all aspects of SEVs, selecting self-healing capabilities most often (cited by 59 percent). But even the least-selected SEV capability, self-integrating, was named by 49 percent (see Figure 4). While ten of sixteen countries placed highest priority on self-healing, the surveyed Asian countries ranked self-driving either first or second.

Figure 4

Growth market consumers consistently ranked self-enabling vehicle capabilities higher than respondents in mature markets



Source: Percentage of respondents who said they are “very interested.” Q7: What self-enabling vehicle capabilities would interest you in the future?

Mobility gets personal

Consumer enthusiasm for mobility services supports the industry growth strategy that executives described in part one of our “Auto 2025” study: creating new services-based offerings.⁴ Information services, such as weather and traffic, had the highest consumer interest (55 percent of global sample) while location-based services like marketing and sales were the least desired (35 percent globally).

Information and health services, such as monitoring heart or blood pressure, ranked high across all age groups in growth markets. Information, entertainment (such as music, video and social) and commerce services (such as paying for tolls, parking and retail) held highest interest for mature markets. Location-based and education services had the lowest priority for consumers across all countries.

Alternatives alter driver lifestyles

Consumers will explore other transportation alternatives as they look for the most cost-effective, efficient and context-relevant ways to get around. As consumers reduce their dependency on the personal car as their primary mode of transportation, they are looking for other solutions that fit their lifestyle expectations. Forty percent of those surveyed were very interested in new multi-modal integration that would allow them to move seamlessly among different modes of transportation.

The personal convenience of cars remains very attractive to consumers. Thirty-nine percent said car sharing is a very important option and 36 percent like the on-demand ride sharing model. Even peer-to-peer car renting was a viable option with one out of three people saying they were very interested. Options for car sharing, on-demand ride sharing and peer-to-peer rental not only give consumers the convenience of using a car without owning, but they also give the owners of those cars the opportunity to get a return on their under-utilized auto investment. For industry executives, this underscores the need to find ways to help provide these and other new mobility solutions.

Comparing the three types of mobility solutions – self-enabling vehicles, mobility services and multiple modes – across all surveyed countries shows a fairly consistent order of priorities by country as consumers look for the car to fit into the future lifestyle (see Figure 5).

Figure 5

Across 16 global auto markets, consumers consistently prioritize the three types of mobility solutions



Sources: Percentage of respondents who said they are “very interested.” Q7: What self-enabling vehicle capabilities would interest you in the future? Q9: What mobility services would interest you in the future? and Q10: What alternative transportation modes would interest you in the future?

Recommendations: Mobility experiences

Create personalized, in-vehicle services

- *Assure greater consumer adoption.* Develop digital experience configurators to align consumer interest with the desired in-vehicle digital capability. Actively promote and develop the full spectrum of self-enabling vehicle innovations that appeal to priorities of multiple consumer and geographic segments.
- *Assist consumers to explore more.* Provide in-vehicle cognitive discovery capabilities to recommend additional digital functionality that would enhance their digital experiences based on how they use their vehicles and their personal mobility preferences. Develop multiple channels to deliver the recommendations and test their interest.
- *Help those who need it.* Provide a “buddy in the dashboard” by using sensors and cognitive capabilities to understand when someone is having trouble, then offer help. Leverage natural language capabilities to dialogue directly with the person.

Accelerate the development of mobility services

- *Concentrate beyond your traditional borders.* Create an innovation discovery process that reaches into other industries. Break down traditional barriers and seek non-traditional partners and disruptive business models for untapped opportunities. Be willing to share.
- *Make partnering a competency.* Implement a partner/alliance management capability that is institutionalized globally. Create a collaborative environment with shared value propositions. Simplify the process to engage both large and small partners.
- *Create a platform for success.* Embrace the open API economy to encourage new innovation. Provide multiple channels for both business partners and consumers to engage. Develop a strong ecosystem to assemble a full spectrum of mobility solutions.

Deploy to regional expectations

- *Understand the different viewpoints of “When can I have it?” versus “Why do I need it?”*
Leverage consumer acceptance based on “perceived value” versus “proven value.” Pilot new mobility solutions in growth markets where the needs and expectations are higher.
- *Customize solutions since one size does not fit all.* Develop go-to-market strategies based on consumer priorities per country. Identify regional successes and proven value to influence mature market consumers.
- *Uncover consumer expectation shifts.* Make the most of analytics to gain insights into changes in how people get around. Identify new mobility expectations. Share with your partners to proactively respond.

The ecosystem

“Invented here” takes a new direction

Creative deployment of digital and social technologies are compelling consumers to participate more directly in the creation of new mobility solutions. Thirty-nine percent said they have participated in some sort of new product input with other industries, usually in the form of consumer panels or surveys.

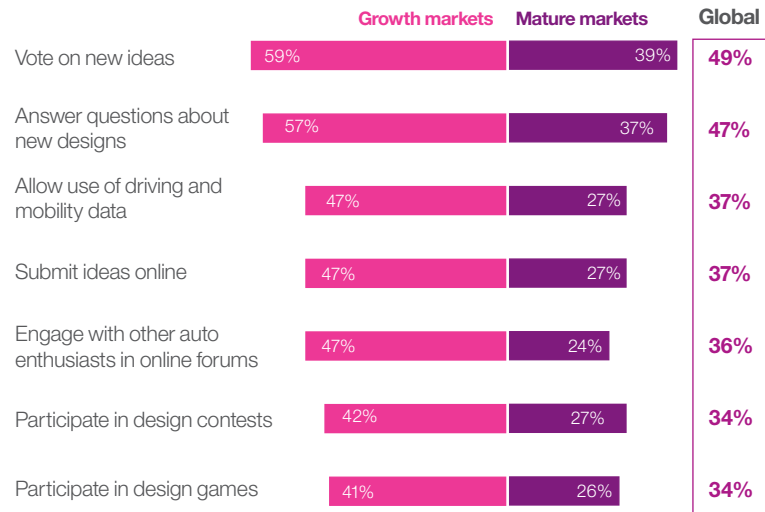
But deeper than those traditional types of engagement is the growing trend of involving consumers in co-creation of services and products (known as “crowd-sourcing”). Our respondents showed the highest interest in traditional engagement methods, such as voting on new ideas and answering questions about new designs (see Figure 6). But many consumers also want greater involvement through submitting ideas online and participating in design games and contests. Surprisingly, up to 37 percent of surveyed consumers said they would even be very likely to allow their driving and mobility data to be a source of design input.

Changing the retail paradigm

Consumer expectations will cause disruption in the retail process, both in how they are influenced and who will assist. Consumers rely on multiple channels to influence their buying decisions, but trust most the ones with a personal connection, such as word-of-mouth, which was cited by 45 percent of the global sample.

Figure 6

Between one-third and one-half of surveyed consumers said they would be very likely to participate in co-creation activities to design new products, marketing/sales campaigns and mobility services



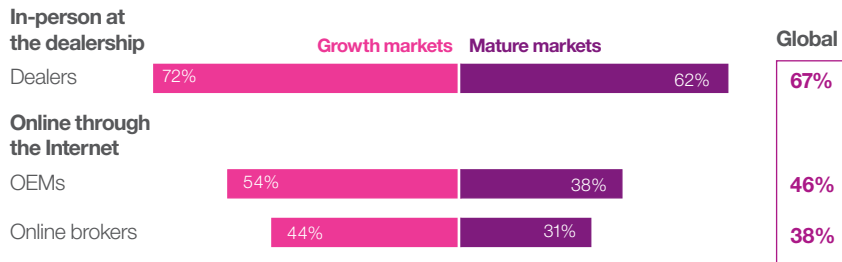
Source: Percentage of respondents who said they are “very likely to participate.” Q13, Q14 and Q15: How likely are you to participate in the following ways to co-create new products, marketing campaigns and mobility services?

Next most influential were online reviews by family, friends and other consumers (44 percent), and then general online search (41 percent). At the bottom of the list, even behind traditional media (32 percent), were OEMs and dealers, named very influential by just 31 percent and 28 percent, respectively. The importance consumers place on influencers varies quite dramatically between countries and, in some places, the ability to influence is much less.

While the dealer will continue to play a key role in the purchase of the vehicle, OEMs and online brokers are emerging as increasingly important participants (see Figure 7). Globally, 46 percent of consumers said they would be willing to purchase online from OEMs and 38 percent would purchase on-line from third-party brokers. By contrast, 67 percent of the global sample still said it was important to buy in person from a dealership.

Figure 7

While many consumers still show interest in the traditional buying model through the dealership, a large portion also would be interested in buying cars online directly from the OEM or online brokers



Source: Percentage of respondents who said they are “very important.” Q2: How important are each of these ways to buy a car, to you in the future?

Recommendations: The ecosystem

Exploit your crowd to gain new wisdom and innovation

- *Create great consumer experiences.* Learn from other industries. Examine similar processes and technologies associated with consumers to incorporate and optimize for automotive.
- *Listen widely, analyze extensively and engage quickly.* Use technologies that are device- and time-independent. Use engagement models that fit each targeted crowd's preferences. Follow up on consumer input and recognize people for their contributions and ideas that you use.
- *Deliver intuitive, meaningful and consistent digital experiences.* Work with partners to assure consistency across all touch points – regardless of who the consumer chooses to engage with.

Continue to transform the retail experience

- *Influence the influencers that matter most.* Improve your ability to influence through your own channels, but also explore other ways, through social media and analytics, to identify and then influence the influencers that consumers trust most.
- *Provide omni-channel vehicle purchasing options.* Make pervasive use of deep data analytics to empower the sales force to deliver a personalized experience.
- *Create seamless access to your vehicle and mobility portfolio.* Actively engage with dealers and non-traditional participants to adopt systems of engagement for different countries.

Are you ready to offer digital experiences and services that consumers desire?

- How will your organization apply analytics and cognitive capabilities to offer new transportation options?
- What is your plan to assess the digital mobility interest of different consumer groups you want to target? How will you use that information to customize valuable digital experiences?
- How will you identify and use the right channels to deliver recommendations to consumers so you can test their interest in additional digital functionality?
- In what ways can you improve your innovation discovery process and strengthen your partnering competency to better serve the drivers and riders of tomorrow?
- How can your organization get more engaged in the borderless automotive ecosystem, and how can you better leverage the ecosystem to learn from other industries?
- Which social media and analytics tools can you use to reach more consumers and more influencers as you help transform the retail automotive experience?

For more information

To learn more about this IBM Institute for Business Value study, please contact us at iibv@us.ibm.com. Follow @IBMIBV on Twitter, and for a full catalog of our research or to subscribe to our monthly newsletter, visit: ibm.com/iibv.

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Related IBM publication

Stanley, Ben and Kal Gyimesi. “Automotive 2025: Industry without borders – Engage with consumers, embrace mobility and exploit the ecosystem.” IBM Institute for Business Value. January 2015. <http://www.ibm.com/services/us/gbs/thoughtleadership/auto2025/>

The right partner for a changing world

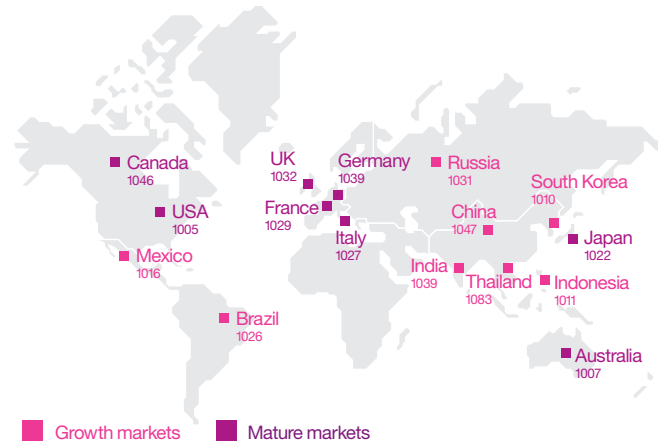
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About our research

We surveyed 16,469 consumers across the top 16 automotive markets: 8,207 (49.8 percent) from mature markets and 8,262 (50.2 percent) from growth markets. In building our sample, we required that at least 80 percent of respondents currently had a driver's license. We did not differentiate between living in cities or rural settings. Our main objective was to find people who use cars and learn how their attitudes may change over the next ten years.



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Notes and sources

- 1 Stanley, Ben and Kal Gyimesi. "Automotive 2025: Industry without borders – Engage with consumers, embrace mobility and exploit the ecosystem." IBM Institute for Business Value. January 2015. <http://www.ibm.com/services/us/gbs/thoughtleadership/auto2025/>
- 2 Ibid.
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