

Reimagining success  
in connected vehicles  
with a differentiated  
CX approach

**How OEMs can drive forward  
November 2020**

# Content

Introduction	1
Personalisation	4
Simplification of tasks	6
Holistic experience	9
Cybersecurity, safety and ease of mind	11
Making the right decisions	14
In summary	17
Connect with us	19



# Introduction

The importance of customer experience in the context of connected cars has become more relevant than ever before. New KPIs around customer experience, wallet share, and profitability from connected car services will drive future transformation programmes.

Connected cars are poised to become a common phenomenon in India in the near future. As India continues to digitise, automobile connectivity as a capability has gained traction amongst major auto OEMs. New KPIs around customer experience, wallet share, and profitability from connected car services will drive future transformation programmes, even though market share and sales figures will stay relevant for an auto OEM.

With more than 690 million internet subscribers, India is one of the largest and fastest-growing markets for digital customers.<sup>1</sup> By 2023, the number of internet users is expected to exceed 870 million. Thriving in a technology-fuelled world requires automakers to connect with their customers on a more personal, emotional, and experiential level throughout the entire customer journey. OEMs are now generating insights not only from actual car data but also from location and customer-preference data.

While designing the right customer experiences, cyber security will go hand in hand with the ease of use of various features. A customer experience that is designed without keeping the cyber security aspect in mind, is like enjoying a roller-coaster ride with a malfunctioning brake system.

What has fundamentally changed, is the need for auto OEMs to understand more about their customers, and at the same time deliver an enhanced experience; the car is no longer just a medium of transportation. Hence, relevant data exchange between customers and OEMs is crucial. According to Deloitte's 2020 Global Automotive Consumer Study,<sup>11</sup> 81 percent of surveyed Indian consumers are comfortable sharing their data with OEMs, dealers, and commercial third parties, if they receive significant benefits in return. Several recent launches of global brands have highlighted "connectedness" as one of their key value propositions.

In such dynamic times, building a connected-car strategy, with customer experience at its core, is essential. Customer experience without a proper cyber security strategy is like enjoying a roller coaster ride without being aware of a malfunctioning brake system. Cyber security needs to be an integral part of the connected car ecosystem, especially when we talk about customer experience. In fact, cyber security cuts across the entire ecosystem of connected vehicles, starting from design to manufacturing to sales through dealerships.

Hence, auto OEMs are being tested around their preparedness, agility, and existing digital capabilities. The threat of a "Kodak

moment” looms large as consolidation continues and new-age mobility players expand their presence across the value chain, challenging traditional OEMs. It is also important to understand the inherent challenges and customer pain points before building these use cases. For example, 51 percent customers in India suffer from motion sickness while travelling in a car.<sup>2</sup> OEMs should consider such insights while designing their propositions.

Given these increasing expectations and the changing environment, the following questions remain to be answered:

The image contains four callout boxes, each with an icon and a question. The first box is green and contains an icon of a server rack and a document, with the question: "What are the best practices for use-case design, customer experience, and data security?". The second box is green and contains an icon of a car with a signal wave, with the question: "What are some key emerging trends that will affect how customers leverage connected cars?". The third box is blue and contains an icon of a person's head with a gear, with the question: "Which themes will help achieve enhanced customer experience?". The fourth box is blue and contains an icon of a circuit board, with the question: "What are some key measures that a customer can take to ensure cyber security and safety?".

This paper aims to help auto OEMs answer some of these questions. It also extends on our perspectives, experiences, and insights gained from previous engagements, as well as on-going dialogues with key players in the automotive industry.

### Taking a customer-centric view to the entire programme is key

Customer experience is key not only to any purchase decision but also to product adoption. A 2018 report by Deloitte highlighted that 52 percent customers had decided against buying a car because of poor sales experience, despite ~US\$15 million being spent by Indian auto companies on CX initiatives in that year.<sup>3</sup> Therefore, customer experience goes a long way in solving key business problems.

Earlier, choice of cars was much clearer—primarily driven by mobility needs and affordability. Today the choice is far more complicated with a multitude of options and each car trying to position itself as unique and different from the rest. While the fundamentals of car purchase still stay the same, there is an added component of convenience and connectivity that is playing a role in the decision-making process.

Creating unique and sustainable customer experiences and consistently engaging consumers throughout the vehicle-ownership life cycle presents a complex challenge for automotive companies. Exacerbating that challenge is the fact that the way consumers interact with brands has changed drastically. According to Deloitte’s research on the shopping behaviour and vehicle preferences for US-based Gen Y automotive consumers (born between 1977 and 1994), customer experience is three times more important than vehicle design in determining the purchase outcome.<sup>12</sup>

The following factors are likely to drive automotive companies to create innovative business models that change the way OEMs and dealers engage with their customers:

- The ubiquitous growth of smartphones and other mobile devices
- Integration of those devices into consumers’ lifestyles
- Parallels from other industries on technology usage for customer engagement
- Trends on how consumers choose to engage with those brands.

If OEMs and dealers wish to tap into consumers’ increasing desire to use transportation models other than simply owning and leasing a vehicle, they will be required to enhance the vehicle ownership experience to keep up with increased proliferation of connected car technologies, as well as alternative transportation models and mobility trends.

### Measuring outcome through product stickiness

While designing solutions, it is important to consider product stickiness. Stickiness is an overall goal that connected car programmes should strive to achieve. The extent to which product stickiness will improve is a function of ease of use and how unique the feature set is. The aspect of product stickiness is important in connected cars because the competition, in this case, expands beyond the auto industry. In the context of connected cars, a competitor may simply be a third-party mobile app, which may reduce the need for customers to use features provided by the auto OEM. Ease of use is a function of the 5Es mentioned in the below figure: effective, efficient, engaging, error-tolerant, and easy to learn. A differentiated customer experience may be a function of the presentation, quality, and timing of the experience provided in each use case. We tried to break down scenarios as to what would happen if either of the levers fails or succeeds in the following matrix. We have also detailed out the compromises and success scenarios.

There is no right or wrong approach. OEMs need to find ways of working to balance themselves and figure out what works best for them and their customers.

### Aspects for product stickiness

**Seller:** We call this quadrant as a “seller” because use cases would be hero features that can play a huge role in the overall success of the OEM and thereby, actual sales of the car. Typically, these use cases are a “first in segment” that differentiate their value proposition on connected cars from other OEMs. The ease of use for these use cases also has to be high because the best practices may have been incorporated from other industries to drive synergies.

**Basic:** Sometimes, the simplicity of the use case may seem to be the right strategy even though the use cases are provided by everyone else in the market. Stickiness may still be higher because of the design simplicity and user experience that drive adoption of connected car features. We call this quadrant as “basic” because it is important to get the basics of the usage philosophy right before moving ahead to something complex.

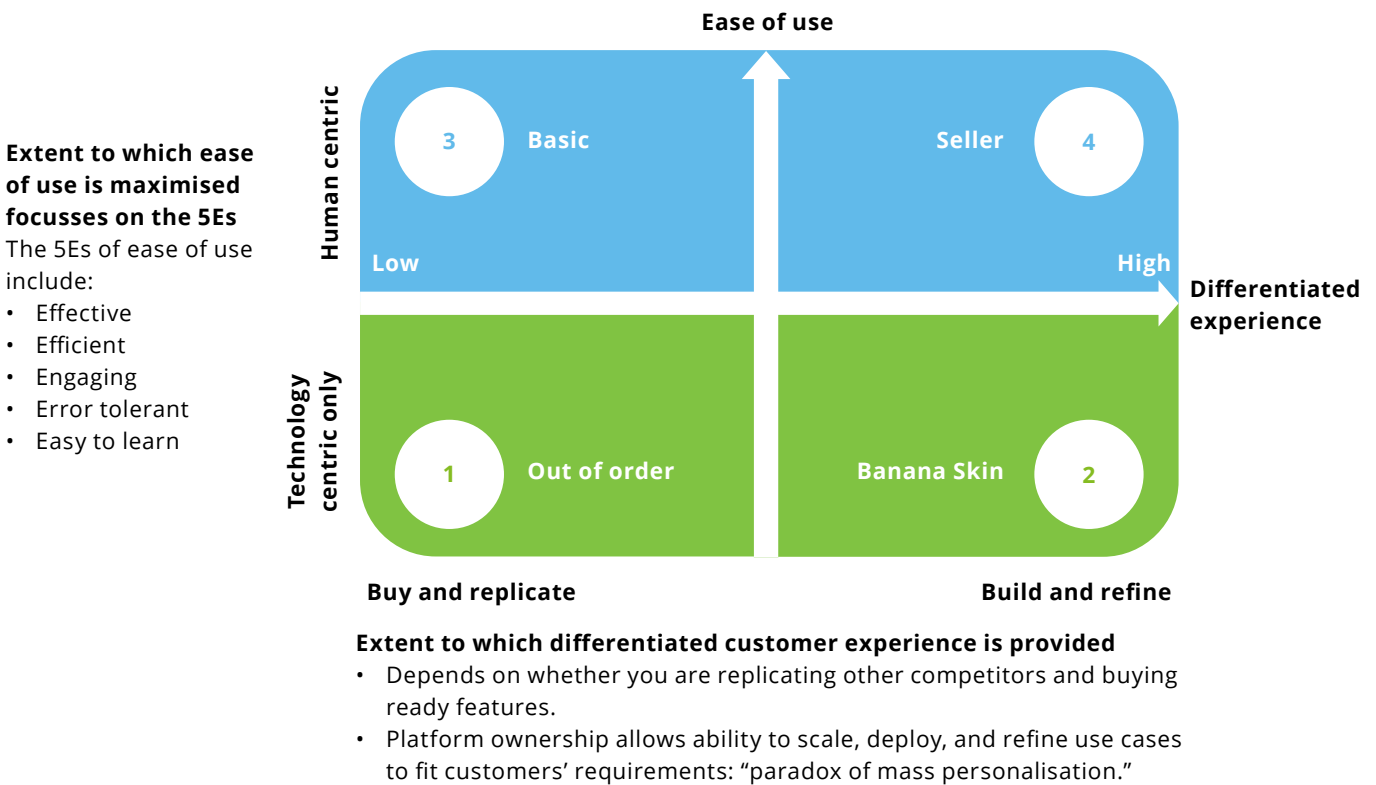
**Out of order:** This is a typical scenario that plays out when OEMs replicate user experience from others in the same industry or cross industry. Customers find it difficult to relate

with the features and also do not see any value. This only increases the feature set in the product catalogue but does little to add to the overall customer experience.

**Banana skin:** This is applicable for futuristic use cases launched without clarity on how the customer would use features. Adoption becomes a huge challenge despite a differentiated experience. OEMs maintain a unique USP that drives noise in the market. Proper adoption strategies need to be implemented and prioritised as there is a high chance that such features will remain untested and only add to the overall product cost without providing a sleek experience to customers. Since this is a tricky situation, we call it a “banana skin”.

Specific levers can be triggered to enhance product stickiness, leading to increased adoption of connected car features. These levers are grouped under the following four themes: personalisation, task simplification, holistic experience by connecting elements beyond car, and a secured and safe experience through enhanced security.

Figure 1: Aspects for product stickiness



Source: Deloitte Framework



# Personalisation

## Importance of in-vehicle infotainment

Personalisation in the context of connected car plays an important role in providing differentiated experiences to an end user. A car that knows the driver's identity and is able to provide a differential experience will, ultimately, stand out in terms of personalisation. In the context of connected cars, in-car infotainment plays an important role in achieving the maximum personalisation level.

In-car or in-vehicle infotainment has evolved from radio, cassettes, and CDs to automotive navigation systems, video players, USB and Bluetooth connectivity, carputers, in-car internet, and Wi-Fi.

According to "MarketsandMarkets", the in-vehicle infotainment market is estimated to reach US\$30.47 billion by 2022, growing at a CAGR of 11.8 percent.<sup>4</sup> Consumers' demand for more intuitive technology integration in their infotainment systems is driving automotive manufacturers to equip their cars with the latest technologies and features. In addition to this,

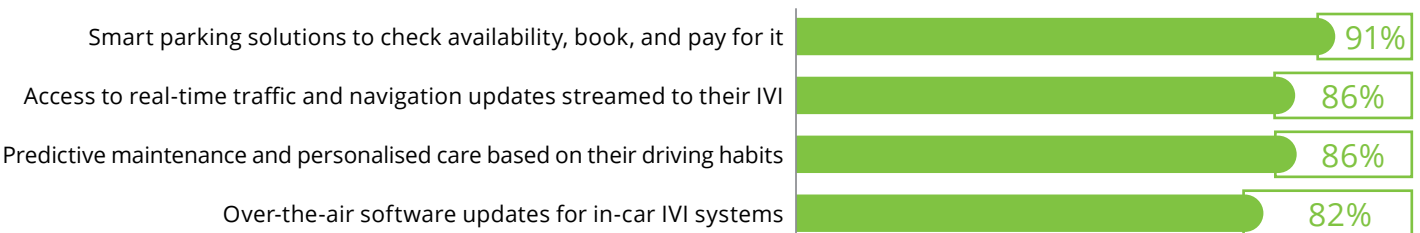
large availability of entertainment content and the need for driving-related information are factors fuelling the demand for feature-rich infotainment systems.

In the future, delivering technology that can meet every driver's needs will be crucial for OEMs. This means understanding that driving does not represent the same activity for everyone. Some people consider driving a chore, while others find it enjoyable. Capturing key information on drivers' preferred destinations and pastimes, in-car technology will be able to provide a more personalised driving experience, allowing users more time to do what they enjoy.

## Use cases

Consumers are increasingly demanding more advanced and personalised infotainment features. According to Deloitte's Automotive Consumer Study 2019, in addition to basic infotainment features and degrees of personalisation, drivers are expressing great interest in the following functionalities:

**Figure 2: Drivers expressing interest in personalised infotainment features**



Source: Future of Digital Car Cockpit: Top Infotainment Trends for OEMs to Monitor<sup>5</sup>

Allowing users to personalise their cars and infotainment systems with user experience data, music, apps, themes, and colours of their choice can further enhance the experience. Integrating these features with customised human-machine interfaces to retain brand identity can be key to success in an exponentially growing industry.

With a multitude of recommendation algorithms and machine learning to drive deep personalisation, each car user will have customised settings right from entertainment content recommendations to auto seat adjustments. This allows each user to have a specially curated driving experience.

OEMs need to consider developing and integrating infotainment systems and apps, including interfaces with home devices and links to offices. Furthermore, OEMs can sell advertising during autonomous shared rides in the same way as public transport does today.

In-vehicle infotainment system finds its application across infotainment, navigation, communication and connectivity, remote services, and telematics services with Over-The-Air (OTA) updates. In developed markets, people use infotainment systems also for accessing social media and emails, checking the availability of parking spots across the city, and streaming high-definition audio and video.

Infotainment systems go well beyond offering in-car entertainment. They communicate with the driver and provide information such as vehicle status (for example, parts that need replacement, service reminders, and tyre pressure), driving environment (for example, suggestions on the best time to commute from home to work to avoid traffic), nearby parking/gas stations, driver status (for example, recommendation on taking a break when the driver is drowsy).

#### **How do we enable differentiated customer experiences?**

With rapid growth in smartphone and cloud technologies, consumers are clamouring for personalised recommendations to live-stream music and internet radio. Adding an aggregation layer to the Over-The-Top (OTT) platforms can help achieve

an enhanced customer experience. In other words, content recommendations should be aggregated and flow in from existing user accounts from OTT and music streaming platforms based on existing user preferences. Also, app preferences should be captured, and personalised dashboards should be enabled based on driver/rider preferences.

Advanced infotainment features integrate both user behaviour and the next level of data-based infotainment systems. They can add power to in-vehicle infotainment (IVI) by manually personalising the media source playlist or automating the choice of entertainment based on user behaviour data. User behaviour data is derived through analytics inputs from interactive voice recognition based on the vehicle owner's mood.

The architecture should provision for intelligent profiling, both through interactive voice recognition systems and pattern recognition algorithms, without intruding customer privacy.

#### **Important considerations**

- Selective abstraction: Show what is relevant but keep the right amount of content available.
- Multi-profiling: Know who is using and adapt accordingly.
- Scalability: Accommodate and aggregate new apps and a varied degree of use cases in the architecture.
- Proactive learning: Enable certain features to learn on their own without waiting for customers to set up.

#### **Existing implementation pitfalls**

Immense potential exists in the market for OEMs to capture a percentage of transactions made from within the car. Most of these transactions are made through third-party apps on mobile devices that have no connection or context with the connected car.

Also, the main application of in-vehicle infotainment systems has been limited to entertainment and navigation. This is primarily due to limitations in the connectivity infrastructure. Lack of high-speed internet connection limits the use of infotainment applications.



## Simplification of tasks

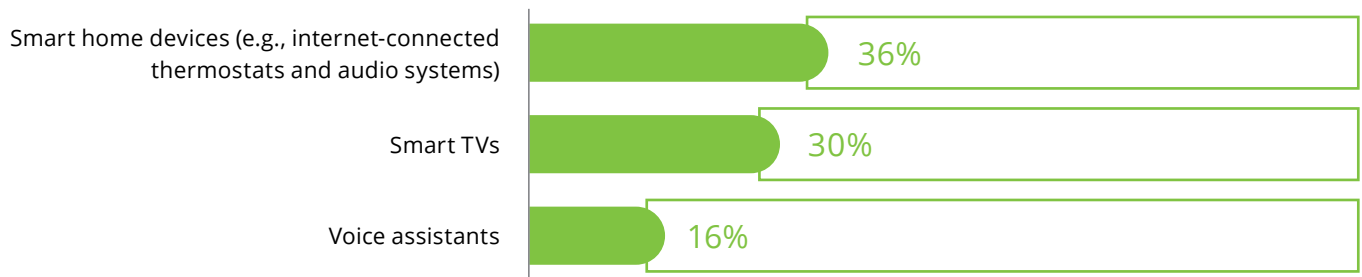
### Voice search and its recent surge

Several voice assistants were launched in early 2010 when people were still learning to use them. Over the past six years, we have seen significant growth in adoption of voice assistants across hotels, hospitals, at home, drive-throughs, and even in cars.

Today, 28 percent search queries in India are done through voice. Voice search queries in Hindi are increasing at more than 400 percent every year.<sup>6</sup>

Use of smart home devices and electronics is becoming increasingly popular as evident from the following graph:

**Figure 3: Use of smart devices at homes**



Source: From "Amazon Echo to Google Home, why Voice-Based Devices are a Big Hit in India"<sup>7</sup>



**Use cases**

Today, digital consumers in India prefer multi-tasking on the go and are tech-savvy smartphone consumers. Hence, having voice recognition and search features available in the car allows the driver to eliminate any screen time while driving and multitasking faster and more efficiently.

One of the most basic functions that can be performed is route mapping and navigation. Voice search allows you to enter your destination and gives you directions. Moreover, you can search for petrol pumps, restaurants, or other stops on the route. You can also check weather conditions on the way or choose alternate routes to avoid bad weather, terrain, etc.

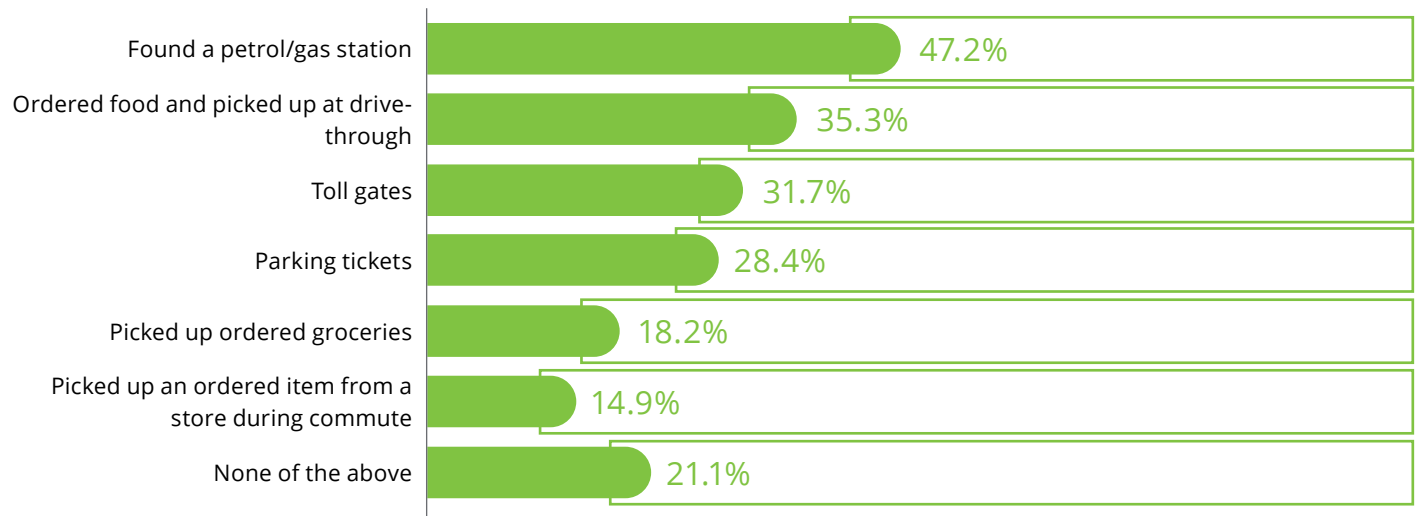
While driving, the driver may come across several billboards advertising products, as well as radio, music, and OTT

platform advertisements. The driver can immediately search for the product through the voice assistant and make a purchase.

This also applies to consuming content in the car. As users come across an ad for a song or a new podcast, they can download it almost immediately.

Another critical use case of voice search is the integration of payment technologies for in-car payments as customers already do a lot via their smartphones while driving. The following survey from the *Digital Drive Report, 2019* shows that commuters often spend on filling petrol/gas, purchasing food at a drive-through, paying at toll gates, picking up groceries, purchasing coffee, or picking up items after placing an order.

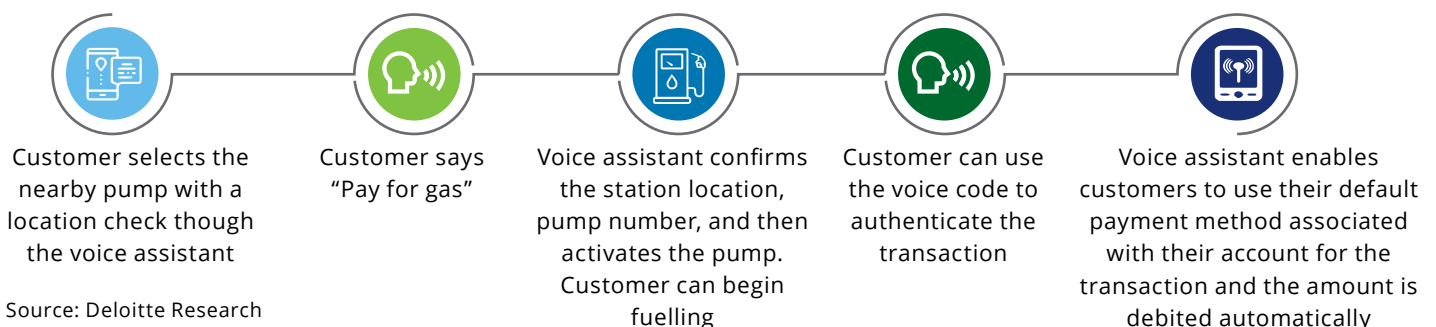
**Figure 4: Commuter activities while driving to/from work<sup>1</sup>**



Source: Digital Drive Report, 2019<sup>8</sup>

Drivers can pay fuel at the gas station without reaching for a card or phone. Drivers can be automatically notified whenever their fuel is running low and be directed to the nearest gas station. Authentication scenarios can be enabled through voice identification and verification.

**Figure 5: In-vehicle payment case study**



Source: Deloitte Research

### Differentiated customer experience

The extension of voice search to connect with existing or new use cases will enable better customer experiences. Right now, use cases are built to perform a certain action that closes the loop after the action is complete. If the context is extended to keep leveraging voice to a conversational scenario and maintain context of the original ask, customers would start appreciating value and begin to adopt more.

For example, if the on-board navigation system instructs to take a left after 300 metres, you will be able to question the precise location of the said turn. The vehicle can respond with something to the tune of: "Right after the petrol pump". It is these informed interactions that will make a real difference in how we spend our time in cars in the near future.

Regular usage will also improve the platform's natural language comprehension capabilities, thereby adding to its skills (use cases in which voice search will be able to respond) to perform more actions.

### Important considerations

- Voice search is not 100 percent accurate. There is a possibility of errors and misinterpretation of words. Right

implementation and continuous technology enhancement are crucial for success.

- How well voice recognition works in cars also has to do with the terrain. The technology for mobile voice recognition systems needs to be improved for a seamless experience.<sup>9</sup>
- The processing time needs to improve so that the outcome is in direct synchronisation with the expected outcome at a particular instance.
- Closing the loop for misinterpretations without affecting the user is necessary as it may lead to erroneous output, which may affect the rider.

### Effective implementation pitfalls

Although there has been a lot of advancements in the voice recognition space, precision is yet to be achieved. Perfect conditions under which speech recognition engines work seamlessly do not exist. There will usually be some background noise, especially in vehicles as they are mobile, which hampers the voice assistant's accuracy. Another issue that leads to inaccuracy is the difference in the accent and pronunciation of the user. When either of these lacks, voice assistants will fail at various levels.





# Holistic experiences

## Vehicle-to-home connectivity

The growing smart home market and the need to connect drivers/customers to their external environment is forcing automotive OEMs to reconsider their development and partnerships strategies. A number of OEMs are integrating voice control platforms into their cars. Building a connection to the wider smart infrastructure will require a number of partnerships and platforms to be integrated into the vehicle.

Inter-connected devices, such as smartphones and smart cars, have transformed the way we live and made it more convenient. Consumers are always on the lookout for tailored experiences and seamless transitions from car to home as they wander in the technologically changing lifestyle. Vehicle-to-home connectivity helps customers get more work done, irrespective of whether they are at home or elsewhere.

### Use Case

Vehicle to home connectivity enables controlling in-vehicle features through smart home speakers (home to car) and controlling home IoT devices from the vehicle through voice commands (car to home).

Auto OEMs are forging partnerships to create value use cases, such as home controls, remote vehicle operations,

real-time security checks, smart routines, and all-in-one personal assistants, to tap the huge market opportunity.

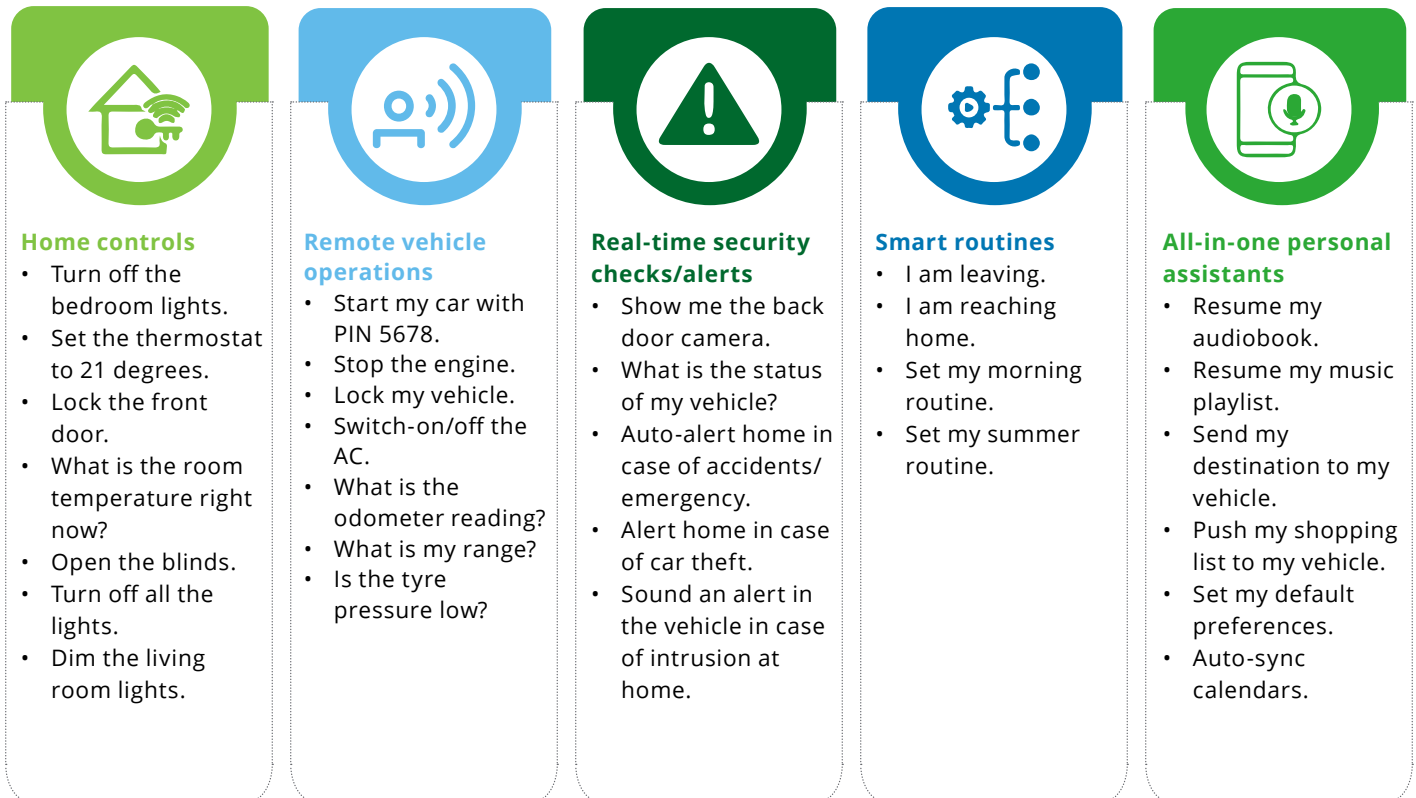
The knowledge of the user's domestic habits and lifestyles can help the connected car industry serve its customers better. Home automation can adjust the car temperature to the person's preferred temperature and offer similar infotainment services, product choices, and retailers, based on the person's at-home preferences.

Further, being connected to home while on the road has an added advantage for users, as they can now be aware of home emergencies, receive in-car alerts when the smart home security system detects leaks or an intruder. As security products embrace both smart vehicles and smart homes, we will see expanded two-way alert capabilities such as:

- In-car fall alarms for older relatives or toddlers at home
- Immediate accident reporting at home
- Car theft alarms that play in the house
- Home video surveillance available on infotainment systems

With connected security solutions, connected car owners no longer need to wonder if their homes and cars are safe. Even if they are away from both, apps in their smartphones can readily inform them of a problem.

**Figure 6: Vehicle-to-home connectivity – Commands that can be given to a voice assistant**



\*Sample set of use cases depicted. Actual cases to be prioritised and implemented per user research

**Differentiated customer experience**

Decluttering of apps is an important aspect of user experience today. Customers want a single interface to control multiple devices and apps. The key to providing a differentiated customer experience is the ability to manage and control multiple electronic gadgets through a single interface and for connected car applications to take the lead. Hence, if a connected car app can provide a single interface to all home IoT devices, the possibilities around new features and functionalities will be endless. Pre-built partnerships with existing players in the home-automation market may be of interest to potential buyers who want to buy the entire experience as an add-on concept.

**Important considerations**

Aspects around compatibility, user experience, and adoption are important areas for the right solution design as highlighted below:

- Whether all kinds of home automation solutions will be able to work with connected car app

- Degree of automation required/possible when connecting to home automation
- Ease of use for each use case, both in terms of setting up the solution and being able to show and realise its benefits, will decide adoption levels.

**Effective implementation pitfalls**

Designing and deployment of solutions that talk with the external environment presents a challenge despite the presence of several favourable factors. Not many implementations have taken place in this space. Hence, it is too early to predict where things can go wrong. However, security is critical for protecting in-vehicle network and control systems from attacks. In the face of these challenges, intra-vehicle wireless sensor networks have become a research focus in the area of intelligent vehicle systems.



# Cybersecurity, safety, and ease of mind

Globally, customers are increasingly becoming aware of the security, safety, and privacy risks associated with connectivity. Especially, when it comes to use cases where the vehicle connects to home. The apprehension seems to be valid as demonstrated by the following surveys:

## Per global automotive survey results<sup>10</sup>:

- 80 percent Indian customers think increased vehicle connectivity will be beneficial in the long term.
- India ranks first in data anxiety related to connected vehicles. At 69 percent, Indian customers are a group of buyers concerned with the security of biometric data generated and shared with external parties by connected vehicles.
- Germany and the US rank second and third, respectively, in the list with 62 and 59 percent buyers concerned about data security.
- 35 percent Indian buyers feel sharing biometric data with OEMs is safe, while 15 percent buyers are willing to share the data with the government.
- 4 percent customers say that they do not want to share biometric data with anyone.

## Another survey focussing on consumers from the European community revealed that<sup>10</sup>:

- Up to 77 percent consumers in the countries they studied are interested in services based on connected car data.

- 59 percent are aware that data can be collected from their vehicles.
- While 83 percent consumers are aware of the European General Data Protection Regulation (GDPR), 40 percent of those aware of GDPR believe it has an impact on data protection.
- 6 percent perceive their automotive manufacturers' communications have changed since GDPR has come into effect.

People who are open to trying out new things and those who explore the latest offerings in connected cars but with limited security knowledge are going to ask questions, including the following:

1. What happens if my vehicle is compromised? Will this allow unauthorised access to my home?
2. Is my car safe or can someone manipulate it leading to compromising my safety?
3. How much would it cost if I have to replace a component in my connected car?
4. Can someone access my bank account if my connected vehicle with an in-vehicle payment app is compromised?

People with cybersecurity knowledge would go beyond and ask questions such as:

1. How do OEMs or manufacturers manage to keep the patches updated for the components in my connected car?

2. How would I be compensated if there is a breach in one of the components?
3. Can my connected car engine/brake system be controlled remotely?

With higher levels of personalisation expected, more data requires to be collected, processed, and analysed. Considering that the data collected would be preferences of customers, we need to be aware of its associated privacy aspects. OEMs need to find an answer to the questions raised by data protection authorities, such as “who owns the data?”, “where will this data be stored?”, and “who would be processing this data?”, and so on.

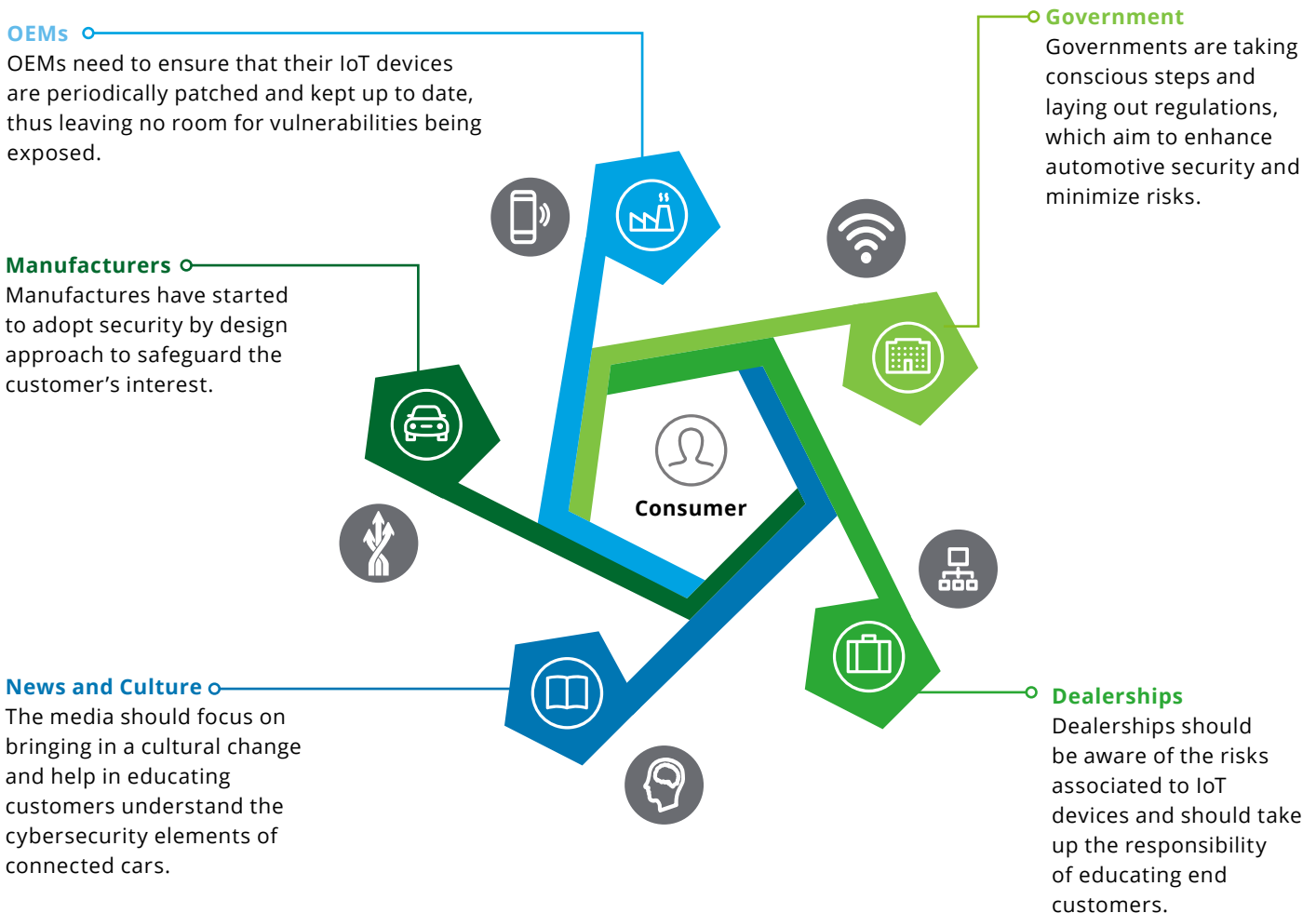
The personal preferences collected from customers should be segregated and protected in such a way that personal information cannot be derived from them. For example, can a customer's age/gender be determined based on a combination of information related to music preferences,

seat adjustments, driving speed, and patterns? Can a person's health-related information be determined based on their voice searches? Can a person's credit and wallet balance be determined if a hacker gets access to the in-car payment feature? Can a person's home address be determined based on his/her everyday location data? Can all of the above derived data be used to commit a larger crime?

This basic worry, if combined with knowledge of past hacks and incidents, such as remotely taking control of the car, keyless car theft, and personal data theft, could well be the downfall of the super connected car during its budding stage itself.

It becomes the responsibility of every player in the connected vehicle ecosystem to ensure that cybersecurity concerns are addressed at every stage.

**Figure 7: The connected vehicle ecosystem**



Source: Deloitte Framework

If this happens, the connected vehicle ecosystem will not only be a connected ecosystem but also a customer centric, safe, and secure ecosystem.

### The role of OEMs

A major share of this responsibility lies with OEMs who build and develop the systems necessary for establishing connectivity. They must look at the ecosystem holistically and develop strategies for securing components under their direct purview and educating and creating awareness for end customers on safeguarding components they control. OEMs, though it is not their responsibility alone, would stand to benefit if they provide awareness on the security and privacy aspects that customers need to be aware of. It would benefit customers and bring OEMs into positive light if they take efforts to create awareness on the following factors:

1. What is the most critical component within the vehicle?
2. How can the customer call a helpline in case of any sudden issues?
3. What is the customer entitled to while purchasing the connectivity component?
4. What are the mechanisms for immediate shutdown?
5. Does the connectivity feature involve any device that the customer needs to protect and abstain from sharing with others? What is the criticality of the device in the connected vehicle perspective?
6. What are some best practices around passwords in vehicles and protecting tokens?

### Social responsibility is yet another aspect that an OEM needs to be cognisant about

With every new feature added, and one device communicating and connecting to a multitude of devices, there is a good chance of an increase in theft-related instances, causing disruptions in law and order.

From an enterprise standpoint, OEMs need to come up with security solutions and include aspects such as authentication and authorisation between two components, session establishments, and maintenance. Some other security aspects that OEMs need to embed in their solutions include the following:

- IoT device security
- Vehicle Security Information and Event Management (SIEM)
- Adequate data collection for law enforcement
- Limitations on data collection such that user privacy is protected
- Authentication and authorisation of the communicating devices
- Integrity-protected transmission of data
- Transmission of data protected from replays
- Transmission of data confidentiality protected (if needed for the application)

In this journey towards a secure, connected ecosystem, OEMs are not alone. They are aided and supported by global regulations such as UNECE WP, 29 which they can use as guidance to secure themselves and their products.





# Making the right decisions

Business goals and target outcomes need to be achieved through a series of interrelated strategic choices. Corresponding outcomes are dependent on the right coherence between strategy and execution skills, with an eye on achieving business outcomes.

## Choice cascade framework

Business goals need to be supported and achieved through a series of interrelated strategic choices. It starts with defining the winning aspiration or end goal. These can be achieved through different strategic choices that will eventually drive outcomes. Hence, these decision points need to be well identified at the beginning to establish a frame of reference. Sometimes, existing OEM goals are also used as a starting point while setting up strategic ambitions for the connected car programme. Whatever be the case, it is important to be pragmatic about what is achievable without painting an overly ambitious and unrealistic picture. In the future, each and every decision point should be validated with the alignment set forth at the beginning. The degree of success of the overall programme will have a proportionate link to how well the phase was structured.

Based on the defined goals and aspirations, the next logical extension is to define “where to play”, which essentially means identifying the path to success. This is more about making certain choices on what the levers to achieve those business outcomes are going to be. For example, some OEMs

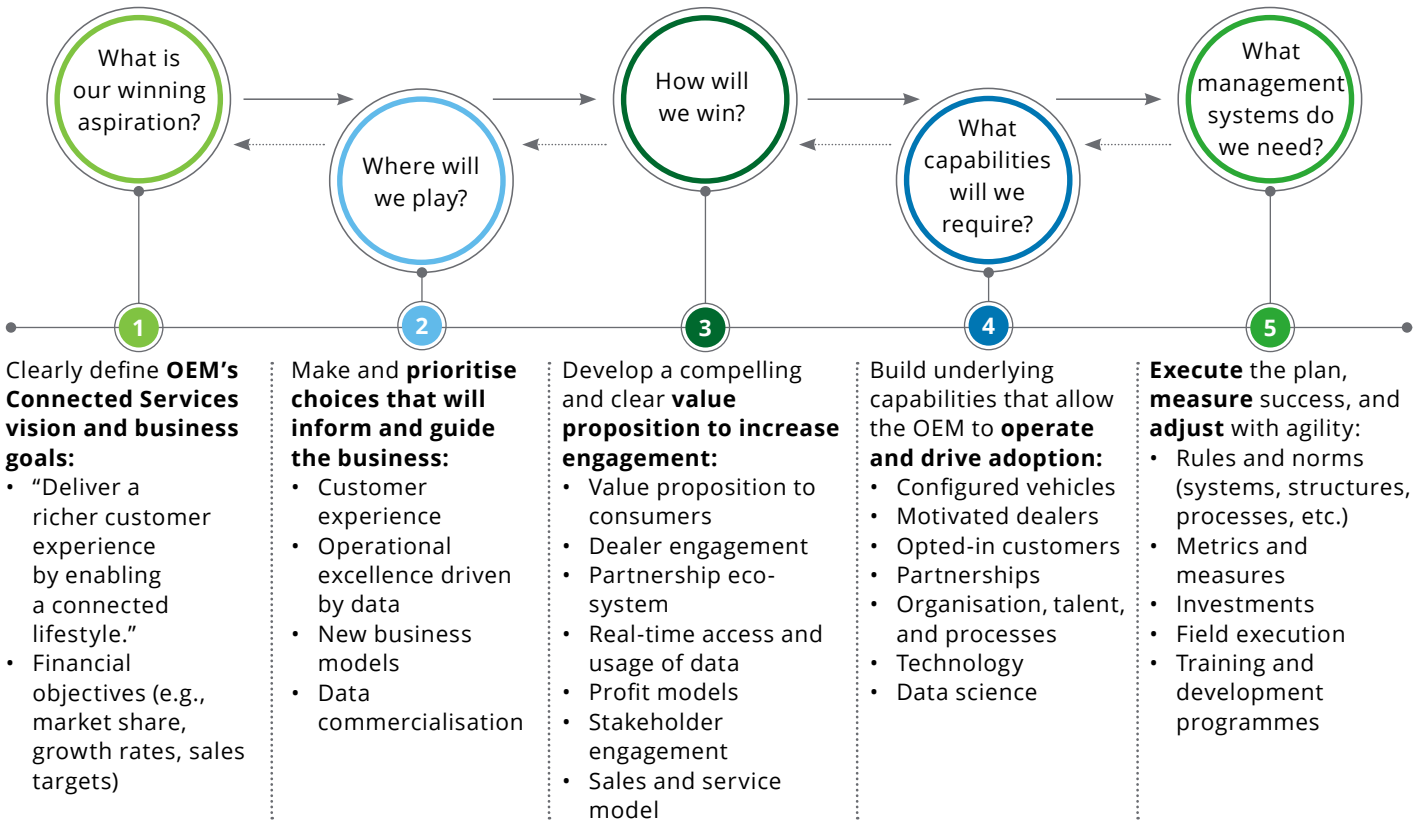
may value customer experience more than anything else, while others may want to focus on operational excellence. Both of these may act as levers to achieving financial success outlined in phase 1. What needs to be ensured is a strong coherence between what is defined as goals versus the realised outcome.

After we have outlined the levers to guide the business, it is important to define the “how” of the process and detail the execution levers further. From this phase, we focus on more tangible initiatives and use cases that will drive outcomes. By this time, OEMs would start to get a clear picture of how things are shaping up and possible areas where added interventions may be required. In scenarios where things may hit a roadblock, it may be worthwhile to revisit earlier phases to realign outcomes. This step is also critical for how the final customer experience shapes up.

Once OEMs are aligned on the road to success, the next logical step is to define the “mode of transportation” or the required capabilities to achieve or drive the programme. During this phase, technology and platform strategy play a key role in achieving a sustainable outcome while keeping



Figure 8: Connected choice cascade



Source: Deloitte Framework

an eye on time, cost, and complexity levers. Aligning with the right implementation player with a proven track record makes things easier, while the involvement of internal technology stakeholders and their enablement is equally crucial for the intended outcome.

Finally, when things start falling in place, having the right machinery or support is essential. This includes setting up a fool-proof plan and roping in the support from every team for a successful launch. OEMs often make the mistake of launching a connected car programme in a siloed manner, which does not allow for the intended success, as predicted. A readiness plan, roadmap, and field execution plan, as well as the right processes need to be ready and implemented before hitting the market.

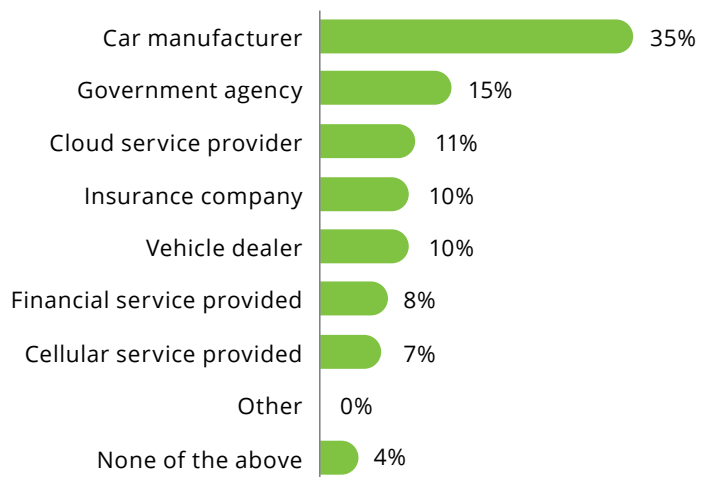
**It is crucial to take a stand on data security for customers to place their trust and faith**

Only 35 percent<sup>11</sup> consumers said that they would trust a car manufacturer the most to manage their connected data.

Customer data needs to be managed and protected to maintain trust in the connected car world. Based on the Deloitte Global Automotive Survey, 80 percent respondents did not mind sharing personal information with OEMs or third parties if significant value was to be received. Nearly 40 percent respondents were also happy sharing sensor

data related to vehicle status. However, they were most concerned about sharing biometrics, location, and app data. Any company is likely to lose customers' trust and reputation if this data is compromised.

Increased connectivity brings greater potential cyber risks, including the loss of personal information, vehicle theft, manipulation of critical safety features, and mobile application security vulnerabilities.



### Areas where implementation can go wrong

At the onset, putting everything in a five-pronged strategy seems straightforward and rather self-explanatory. However, we have witnessed challenges in effective connected car implementations over the past few years and some gaps are still evident across a few OEMs. We have highlighted some major pitfalls of connected car implementations and the lessons we can take from them.

**Ad hoc deployment of use cases:** Implementing use cases because someone else has done it may not be the right way to look at a connected car programme. Scalability is compromised without a clear-cut strategy and it often becomes a shelved project.

**Incorrect technology architecture and platform:** Probably the most important part in execution of a successful connected car programme is the technology and platform architecture. Having a core technology strategy that aligns with the business outcome is key to successful implementation without overly compromising on cost, quality, and time.

**Partnerships that turn sore:** It is no secret that OEMs have to get into a multi-vendor partnership model across hardware, software, and data. This is a complex process to manage and often, several relationships fail because of a mismatch in priorities and expectations.

**Stakeholder buy-in at every level:** Connected car is a cross-functional, inter-department initiative. Often, projects hit a roadblock because the budgets are not approved or if they are, stakeholders are not ready to support it. This happens in most multi-disciplinary project initiatives and thorough programme management is essential.

**Going “glo-cal”:** We have to realise that use cases that are relevant for other geographies may not be relevant for India. While at the same time, use cases that may be relevant for India may need to be built from scratch and may not be available as is. Understanding the dynamics of the local geography and how it operates poses a unique scenario for OEMs to manage. India is a digital-savvy country compared with several others, and the expectations of the user base are quite unique in shape or form.

The aforementioned challenges can be battled by focussing on the customer while developing a connected car programme. The average Indian consumer will have a certain set of priorities and look for features in a connected car that differ from the rest of the world. Hence, we believe a customer-centric view that offers convenience and ease of use is key to solving major challenges in most connected car programmes.



## In summary

Connected car capabilities is a differentiated value proposition today. It is expected to eventually become commoditised in the future. The key to maximising its full potential is to continuously innovate and improve customer experiences with time. The key considerations for any automotive player during this journey include the following:

- The introduction of 5G in the next few years will be one of the biggest technological advancements that will boost the market for in-vehicle infotainment. Consumers will be able to access high-speed data, on-demand entertainment, high-definition maps, and a whole lot of services with the introduction of this technology.
- The way consumers today interact with brands has changed drastically from before. Expectations are evolving and the importance of a differentiated experience is rapidly gaining momentum.
- Auto OEMs must strive to achieve product stickiness as it is extremely easy for a consumer to shift to a competitor instead of using the features provided by OEMs.
- A connected car strategy should be able to address critical customer needs and support innovations that will drive the future. Each use case and feature need to be thoroughly researched before enabling it for customers. There might be scenarios when a simple feature can provide the best of experiences and drive adoption, while a negative user experience can harm the solution altogether.
- Differentiated customer experience is not always feasible in every use case and may simply be a function of the presentation, quality, and timing of the experience provided.
- OEMs should also review their readiness to cater to safety and data privacy requirements, while simultaneously convincing customers of the value of their connected services.
- This huge task of security put forth in front of OEMs should not be looked at as a challenge but considered to be an opportunity to enhance their business and gain advantage in the market. This is an opportunity for OEMs to increase customer loyalty. In fact, this focus on integrating security with connectivity can lead to enhanced security features.
- If OEMs are able to establish and communicate to customers that using connectivity features increases their security (smart homes that inform the driver when someone tries to enter their home) rather than weaken it, they can see a huge change in customer mindsets towards adopting connectivity and moving toward an era of connected ecosystems.

# End notes

- <sup>1</sup> 'Number of internet users in India from 2015 to 2020 with a forecast until 2025'- Statista
- <sup>2</sup> Deloitte Global Deloitte Automotive Consumer Study, 2019- <https://www2.deloitte.com/in/en/pages/consumer-business/articles/global-automotive-consumer-study.html>
- <sup>3</sup> Deloitte Global Deloitte Automotive Consumer Study, 2018- <https://www2.deloitte.com/global/en/pages/consumer-business/articles/cip-automotive-trends-millennials-consumer-study.html>
- <sup>4</sup> 'Everything you need to know about in-vehicle infotainment systems'- e-infochips
- <sup>5</sup> 'Future of digital car cockpit: To infotainment trends for OEMs to monitor'- infopulse
- <sup>6</sup> Niki Marks 750x Growth in Hindi Volumes in a Year, Mobility India
- <sup>7</sup> 'From Amazon Echo to Google home, why voice-based devices are a big hit in India'- The News Minute
- <sup>8</sup> 'FinTech in Automotive: How to Implement In-Car Payments in Connected Vehicles'- intellias
- <sup>9</sup> 'Voice Recognition Softwares in Cars'- Total Voice Technologies
- <sup>10</sup> 'Otonomo-SBD Automotive European Consumer Survey Reveals Solid Interest in Connected Car Services and Limited GDPR Understanding'- Globeweswire
- <sup>11</sup> Deloitte Global Deloitte Automotive Consumer Study, 2020- <https://www2.deloitte.com/in/en/pages/consumer-business/articles/in-gacs-2020-upcoming-consumer-business-reports-for-launch-in-india-noexp.html>
- <sup>12</sup> Deloitte Acceleration of the Connected Experience- <https://www2.deloitte.com/us/en/pages/manufacturing/articles/acceleration-of-the-connected-experience-automotive-manufacturing.html>

# Connect with us

**Rajeev Singh**

Partner, Consulting  
rpsingh@deloitte.com

**Rajat Mahajan**

Partner, Consulting  
rajatm@deloitte.com

**Abhrajit Ray**

Partner, Consulting  
abhrajitray@deloitte.com

**Praveen Sasidharan**

Partner, Risk Advisory  
psasidharan@deloitte.com

# Contributors

Atul Jairaj  
Subhro Mukherjee  
Palak Sheth  
Bhargavi Rajgopal  
George Thekekara  
Mallika Jhaveri



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. Please see [www.deloitte.com/about](http://www.deloitte.com/about) for a more detailed description of DTTL and its member firms.

This material is prepared by Deloitte Touche Tohmatsu India LLP (DTTILLP). This material (including any information contained in it) is intended to provide general information on a particular subject(s) and is not an exhaustive treatment of such subject(s) or a substitute to obtaining professional services or advice. This material may contain information sourced from publicly available information or other third party sources. DTTILLP does not independently verify any such sources and is not responsible for any loss whatsoever caused due to reliance placed on information sourced from such sources. None of DTTILLP, Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively, the “Deloitte Network”) is, by means of this material, rendering any kind of investment, legal or other professional advice or services. You should seek specific advice of the relevant professional(s) for these kind of services. This material or information is not intended to be relied upon as the sole basis for any decision which may affect you or your business. Before making any decision or taking any action that might affect your personal finances or business, you should consult a qualified professional adviser.

No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person or entity by reason of access to, use of or reliance on, this material. By using this material or any information contained in it, the user accepts this entire notice and terms of use.