Global Automotive Consumer Study: Future of Automotive Technologies Insights for South Africa 2017
Executive Summary

Key South African storylines uncovered when compared Globally

Dear Reader,

Deloitte’s Global Automotive practice has been exploring consumers’ evolving automotive and mobility preferences since 2009. Our sixth Global Automotive Consumer study, which surveyed a sample size of 1 254 respondents, reveals interesting insights into how consumers in the South African market feel about rapidly evolving in-vehicle technologies when compared to other countries around the globe.

Our findings reveal that South African consumers are more likely to desire advanced automation technology while making their car selection when compared to consumers in the United Kingdom, Germany, China, Mexico, and South Korea. However, their willingness to pay has decreased from R19 149 in 2014 to R18 370 in 2016. Having said that, younger South Africans are willing to pay more compared to older generations. When comparing the South African consumer to those in South Korea, United Kingdom and Germany, the average proportion of consumers in South Africa are more willing to pay for these advanced technologies, than these three countries.

The study also looked into the ranking of technology features, in which our consumers ranked safety as the most important feature, followed by cyber security and connectivity. What is also interesting to note is that our consumers are divided in terms of who they trust in bringing self-driving vehicles into our local market – 51% say they trust a tech company, whereas 49% say they trust traditional vehicle manufacturers. The interest in self-driving vehicles is there, with 7 in 10 South African consumers willing to try them out, provided they have a proven safety record. A concern they share, however, is the safety of the data which comes with advanced in-vehicle technology.

Ride-sharing services do not seem to pose a threat to car ownership as yet, with the majority of South African consumers saying they never, or rarely use this service. However, looking at the younger South African generations (Gen Y/Z), 42% of them say they use ride-sharing services regularly and question their need to own a vehicle in the future.

For more information on our survey, please download the report on Deloitte.com/za.

Kind regards,

Karthi Pillay
Deloitte Africa Automotive Leader
South African consumers’ view on desirability for basic and advanced automation...
Consumer desirability for basic and advanced automation is higher in South Africa than China, Mexico, South Korea, UK, and Germany...

Consumers’ level of agreement with different automation levels

- **Basic automation**: Automation that allows the driver to be in complete control with vehicle performing specific automated tasks
- **Advanced automation**: Automation that combines at least two functions such as adaptive cruise control and lane centering technology
- **Limited self-driving**: Automation that allows vehicle to take over all driving functions under certain traffic and environmental conditions
- **Full self-driving**: Automation that allows the vehicle to take over all driving functions for an entire trip

**Note**: Percentage of respondents who strongly agreed or agreed have been added together

**Source**: 2016 and 2014 global automotive consumer survey, Deloitte
Furthermore, the desirability for advanced automation has increased over the last 2 years, while that for self-driving levels has remained stagnant...

% of consumers who agreed with different automation levels

- Basic automation: Automation that allows the driver to be in complete control with vehicle performing specific automated tasks
- Advanced automation: Automation that combines at least two functions such as adaptive cruise control and lane centering technology
- Limited self-driving: Automation that allows vehicle to take over all driving functions under certain traffic and environmental conditions
- Full self-driving: Automation that allows the vehicle to take over all driving functions for an entire trip

Note: Percentage of respondents who strongly agreed or agreed have been added together

Source: 2016 and 2014 global automotive consumer survey, Deloitte
Although the desirability has increased somewhat, the willingness to pay for advanced vehicle technologies has decreased since 2014...
Willingness to pay has decreased slightly in 2014...

For cockpit features, stated price point is relatively low

**Source:** 2016 and 2014 global automotive consumer survey, Deloitte
But ... there is good news for automakers to be found among younger consumers...
Interest in full self-driving vehicles has increased among younger generations...

% of consumers who agree or strongly agree with different levels of automation by generation (2014 and 2016)


Source: 2016 and 2014 global automotive consumer survey, Deloitte
Younger generations are willing to pay more for all in-vehicle technologies versus older generations...

### Average price for all technologies

- **Gen Y/Z**: R22 305
- **Gen X**: R13 055
- **Pre-boomers**: R9 406

### Weighted average price of technologies by generation

- **Alternative engine**:
  - Gen Y/Z: R29 302
  - Gen X: R16 376
  - Pre-boomers: R13 331

- **Full/partial self-drive**:
  - Gen Y/Z: R25 741
  - Gen X: R16 768
  - Pre-boomers: R9 62

- **Safety**:
  - Gen Y/Z: R22 78
  - Gen X: R12 820
  - Pre-boomers: R11 522

- **Connected**:
  - Gen Y/Z: R19 459
  - Gen X: R10 973
  - Pre-boomers: R7 094

- **Cockpit**:
  - Gen Y/Z: R13 395
  - Gen X: R8 336
  - Pre-boomers: R5 122

*Represents significant differences with other options*
...and a higher average proportion of consumers in South Africa are willing to pay for future vehicle technologies when compared to South Korea, UK and Germany...

% of consumers who are willing to pay for vehicle technology by type (2016)

Source: 2016 global automotive consumer survey, Deloitte
Which technology features do South African consumers find most useful?

- Safety...
- Cyber Security...
- Connectivity...
The advanced technologies South African consumers prefer ... It’s all about safety (and the building blocks of vehicle automation)...

<table>
<thead>
<tr>
<th>Rank</th>
<th>Technology that...</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Recognises objects on road and avoids collision</td>
<td>Safety</td>
</tr>
<tr>
<td>2</td>
<td>Takes steps in medical emergency or accident</td>
<td>Safety</td>
</tr>
<tr>
<td>3</td>
<td>Enables remote shutdown of stolen vehicle</td>
<td>Cyber security</td>
</tr>
<tr>
<td>4</td>
<td>Informs driver of dangerous driving situations</td>
<td>Safety</td>
</tr>
<tr>
<td>5</td>
<td>Blocks driver from dangerous driving situations</td>
<td>Safety</td>
</tr>
<tr>
<td>6</td>
<td>Prevents theft by restricting unauthorised access</td>
<td>Cyber security</td>
</tr>
<tr>
<td>7</td>
<td>Diagnoses and sends maintenance notifications</td>
<td>Connectivity</td>
</tr>
<tr>
<td>8</td>
<td>Helps enhance fuel efficiency</td>
<td>Fuel efficiency</td>
</tr>
<tr>
<td>9</td>
<td>Prevents hacking into vehicle systems</td>
<td>Cyber security</td>
</tr>
<tr>
<td>10</td>
<td>Enables vehicle-to-vehicle and road communication</td>
<td>Connectivity</td>
</tr>
<tr>
<td>11</td>
<td>Monitors the physical health of the driver</td>
<td>Safety</td>
</tr>
<tr>
<td>12</td>
<td>Enables usage of alternative fuels</td>
<td>Environment</td>
</tr>
<tr>
<td>13</td>
<td>Lowers the impact on the environment</td>
<td>Environment</td>
</tr>
<tr>
<td>14</td>
<td>Enables use of advanced lightweight materials</td>
<td>Fuel efficiency</td>
</tr>
</tbody>
</table>

Key for category (pages 13 and 14)
- **Safety**
- **Cyber security**
- **Connectivity**
- **Environment**
- **Fuel efficiency**
- **Convenience**
- **Self-drive**
- **Cost efficiency**
- **Service enabler**
- **Performance**
- **Miscellaneous**

*Note: Break points for most, moderate and least preferred technologies are derived based on percentage of times a technology is rated the best*
...while convenience and service-enabling technology features resonated the least with consumers...

<table>
<thead>
<tr>
<th>Rank</th>
<th>Technology that...</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Enables interactive vehicle operational information</td>
<td>Convenience</td>
</tr>
<tr>
<td>16</td>
<td>Enables high speed, long distance, highway ‘auto-pilot’ mode</td>
<td>Self-drive</td>
</tr>
<tr>
<td>17</td>
<td>Coaches the driver to drive safely</td>
<td>Cost efficiency</td>
</tr>
<tr>
<td>18</td>
<td>Automates tasks for comfort and convenience</td>
<td>Convenience</td>
</tr>
<tr>
<td>19</td>
<td>Enables full self-driving capabilities</td>
<td>Self-drive</td>
</tr>
<tr>
<td>20</td>
<td>Enables hands-free interior controls</td>
<td>Convenience</td>
</tr>
<tr>
<td>21</td>
<td>Assists in locating, reserving, and navigating to a parking space</td>
<td>Service enabler</td>
</tr>
<tr>
<td>22</td>
<td>Enables remote/automatic software updates of the vehicle</td>
<td>Connectivity</td>
</tr>
<tr>
<td>23</td>
<td>Makes available adjustable settings to enhance vehicle performance</td>
<td>Performance</td>
</tr>
<tr>
<td>24</td>
<td>Allows use of smartphone applications through the vehicle dashboard</td>
<td>Connectivity</td>
</tr>
<tr>
<td>25</td>
<td>Enables the use of self-healing paint</td>
<td>Miscellaneous</td>
</tr>
<tr>
<td>26</td>
<td>Enables low-speed urban “auto pilot” mode</td>
<td>Self-drive</td>
</tr>
<tr>
<td>27</td>
<td>Provides notifications when places of interest are near</td>
<td>Service enabler</td>
</tr>
<tr>
<td>28</td>
<td>Automatically pays parking and toll fees</td>
<td>Service enabler</td>
</tr>
<tr>
<td>29</td>
<td>Allows the driver to control automated home systems</td>
<td>Service enabler</td>
</tr>
<tr>
<td>30</td>
<td>Provides passengers with customised entertainment while driving</td>
<td>Convenience</td>
</tr>
<tr>
<td>31</td>
<td>Empowers customer to personalise vehicles</td>
<td>Miscellaneous</td>
</tr>
<tr>
<td>32</td>
<td>Helps manage daily activities</td>
<td>Convenience</td>
</tr>
</tbody>
</table>

Note: Break points for most, moderate and least preferred technologies are derived based on percentage of times a technology is rated the best.
Consumers in South Africa are divided, with **51%** trusting a tech/new company (which specialises in autonomous vehicles) more to bring self-driving technology to market...
Consumers in South Africa are divided between who they trust most; a technology company, or traditional car manufacturer, to bring self-driving technology to market.
Consumers in South Africa are divided, with half of them trusting technology companies more, while the other half trust traditional car manufacturers to bring self-driving technology to market (by generation).
Individual safety features rule, but how do consumers feel about fully self-driving vehicles?
Almost 7 in 10 consumers think travelling in self-driving cars will be a positive experience, and are willing to try them if they have an established safety record...

Consumer opinion on fully self-driving vehicle

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travelling in a fully self-driving car will be a positive experience</td>
<td>68%</td>
</tr>
<tr>
<td>A fully self-driving car will free up my time so I can focus on other activities</td>
<td>63%</td>
</tr>
<tr>
<td>Fully self-driving cars will not be safe</td>
<td>59%</td>
</tr>
<tr>
<td>I would trust an autonomous car to drive for me</td>
<td>49%</td>
</tr>
</tbody>
</table>

Factors making consumers ride in fully self-driving vehicles

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>An established track record of self-driving cars being used on the streets safely</td>
<td>73%</td>
</tr>
<tr>
<td>Vehicle is offered by a brand you trust</td>
<td>68%</td>
</tr>
<tr>
<td>A friend or neighbor using one</td>
<td>55%</td>
</tr>
<tr>
<td>Government regulation/approval of self-driving cars</td>
<td>49%</td>
</tr>
</tbody>
</table>

Note: Percentage of respondents who strongly agreed or agreed have been added together

Note: Percentage of respondents who said ‘significantly more likely’ or ‘more likely’ have been added together
Consumers are concerned about the safety of their data...
8 in 10 consumers fear hacking as the biggest threat to data sharing, but would readily share their personal information with car makers if they get significant benefits...

Consumer opinion on personal data sharing and privacy

- With my car connected to the outside world, I fear someone hacking into my car and risking my personal safety. 83%
- I would share my personal information with the automotive manufacturer or dealer if I get significant benefits from it. 79%
- I would share my personal information with commercial third parties if I get significant benefits from it. 64%
- I would share my personal information with anyone as long as I know what I’m sharing and am comfortable sharing it. 61%
- I believe personal data generated from my car is safe and secure from hackers. 51%

Note: Percentage of respondents who strongly agreed or agreed have been added together
Ride-sharing is not a threat for South African car ownership...for now...
The majority of consumers in South Africa never, or rarely use ride-sharing services...

Gen Y/Z consumers are more likely to use ride-sharing services at least once a week when compared to Gen X or Pre-boomers

Ride-sharing frequency

- **Pre-boomers**
  - 9% at least once a week
  - 57% rarely
  - 34% never

- **Gen X**
  - 12% at least once a week
  - 53% rarely
  - 35% never

- **Gen Y/Z**
  - 27% at least once a week
  - 34% rarely
  - 39% never

More than 8 in 10 rural consumers never, or rarely use ride-sharing services

- **Urban**
  - 23% at least once a week
  - 39% rarely
  - 38% never

- **Suburban**
  - 20% at least once a week
  - 43% rarely
  - 37% never

- **Rural**
  - 19% at least once a week
  - 55% rarely
  - 26% never

*Ride-sharing is defined in this study as car sharing services wherein consumers hire a car/driver via the phone, or an app*
...with the majority of consumers across all generations using it for personal trips...

% use of ride-sharing services by business versus personal travel

More than 4 in 10 Gen X and Gen Y/Z consumers use ride-sharing services for business trips

% use of ride-sharing services by Generation

- Pre-boomers: 66% personal, 34% business
- Gen X: 60% personal, 40% business
- Gen Y/Z: 58% personal, 42% business

Represents significant differences with other options
Interestingly, more than 1 in 3 consumers who use ride-sharing services, question their need of owning a vehicle in the future.

% of consumers who question their future vehicle ownership due to use of ride-sharing services, South Africa, 2016

Overall

Gen Y/Z consumers are more likely to use ride-sharing services at least once a week when compared to Gen X or Pre-boomers

The rest of the percentage of consumers in each category have not thought about using it.
The majority of consumers are still very demanding when it comes to expectations around electric-vehicle performance.
55% of consumers are willing to wait a maximum of only 1 hour to fully charge an all-battery powered electric vehicle...

Maximum time consumers are willing to wait to fully charge an electric vehicle

Currently, it takes 3-4 hours to fully charge an electric vehicle at super-charging stations and 6-8 hours at home*

More than half of the consumers want a minimum distance of more than 400 kilometers from a fully charged electric vehicle...

Minimum distance expected from a fully charged electric vehicle

- 80 - 160kms: 22%
- 240 - 320kms: 24%
- More than 400kms: 54%

*Represents significant differences with other options*
While conventional engines remain the preferred choice, even into the future, acceptance of alternative engines are on the rise across all generations...

**Engine Preferences**

<table>
<thead>
<tr>
<th>Engine Type</th>
<th>Current</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional engines (gasoline/diesel)</td>
<td>99.2%</td>
<td>83%</td>
</tr>
<tr>
<td>Hybrid electric</td>
<td>0.6%</td>
<td>6%</td>
</tr>
<tr>
<td>Other alternative engines</td>
<td>0.2%</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Alternative engines by generations**

<table>
<thead>
<tr>
<th>Generation</th>
<th>Current</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen Y/Z</td>
<td>0.8%</td>
<td>10%</td>
</tr>
<tr>
<td>Gen X</td>
<td>0.0%</td>
<td>11%</td>
</tr>
<tr>
<td>Pre-boomers</td>
<td>0.5%</td>
<td>15%</td>
</tr>
</tbody>
</table>

*Percentages based on survey data from the Global Automotive Consumer Study, Insights for South Africa 2017.*
Study Methodology

The Deloitte Global Automotive Consumer Study is fielded using an online panel methodology where consumers are invited to complete the questionnaire via email through Deloitte’s global panel partner. This module, which focused on future vehicle technologies, was fielded in 17 countries.

The total sample of survey respondents was 22,078 consumers (16 years old and up). The sample plan was designed to be nationally representative of the overall population in each country.

The survey was divided into two broad sections:
1. Consumer preferences related to future technologies
2. Core questions to facilitate repeatable analyses across from 2014

One key outcome of this study was to determine consumer prioritisation of various new in-vehicle features. Maximum Differential Analysis was used to determine a relative ranking of 32 technologies. Using Sawtooth’s best-worst scaling, respondents were presented with a gamified method of choice where they were asked to select which of five features was the most and least useful technology.

Each of the 32 features was presented two times in a random order. Consumer choices were then aggregated to yield an overall utility score for each of the 32 technologies, which were then rescaled to 1,000. This analysis was conducted for each of the 15 covered markets to understand consumer preferences.
Fielding Dates, Sample Size and Key Demographics used

<table>
<thead>
<tr>
<th>Country</th>
<th>Start Date</th>
<th>End Date</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>12/9/2016</td>
<td>25/9/2016</td>
<td>1,254</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Generation</th>
<th>Gender</th>
<th>Place of Residence</th>
<th>Income Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen Y/Z</td>
<td>Male</td>
<td>Urban</td>
<td>Low</td>
</tr>
<tr>
<td>Gen X</td>
<td>Female</td>
<td>Suburban</td>
<td>Med</td>
</tr>
<tr>
<td>Pre-boomers</td>
<td>Rural</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>South Africa</th>
<th>Generation</th>
<th>Gender</th>
<th>Place of Residence</th>
<th>Income Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>64%</td>
<td>18%</td>
<td>18%</td>
<td>52%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vehicle Ownership</th>
<th>How Acquired</th>
<th>Vehicle Type</th>
<th>Engine Type</th>
<th>Length of Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners</td>
<td>New</td>
<td>Non-luxury</td>
<td>Conventional (Gas+Diesel)</td>
<td>&lt;2 yrs</td>
</tr>
<tr>
<td>Non-owners</td>
<td>Used</td>
<td>Luxury</td>
<td>Alternative powertrain</td>
<td>3-5 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conventional (Gas+Diesel)</td>
<td>5-10+ yrs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>South Africa</th>
<th>Vehicle Ownership</th>
<th>How Acquired</th>
<th>Vehicle Type</th>
<th>Engine Type</th>
<th>Length of Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>82%</td>
<td>43%</td>
<td>83%</td>
<td>1%</td>
<td>37%</td>
</tr>
</tbody>
</table>
Contact

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