KPMG

Big Data, Big Opportunities

Mobility 2030

Despite technological breakthroughs in mobility around the world, there will be a significant amount of physical infrastructure needed to support the future mobility landscape in South Africa. This includes the introduction of autonomous cars; electric vehicle charging infrastructure; adapted filling stations; automotive repair solutions and aftermarket fitment. While it may take a long time before autonomous cars dominate SA roads, non-autonomous cars are becoming more connected than ever – using data and imagination.

Before we delve into the world of self-driving cars, let's look at how non-autonomous cars are generating and using data to create an enhanced driving experience – now, and in the near future. A current example would be Google's community-based traffic and navigation app, Waze. Using a smartphone, commuters are able to detect traffic patterns thus optimising your route. The best part? It uses real-time data provided by other road users. This is a prime example of how data is exchanged to enhance driving experiences on the road. Now imagine if a car could connect to infrastructure, such as smart traffic lights. Depending on the amount of traffic, the smart traffic light would optimise flow in real-time, instead of relying on a timer. Herein lies the opportunity.

Data is Everywhere

Connected cars are vehicles that are connected to the internet and the outside world, through digital innovation. Let's look at how connected cars will generate and collect large amounts of data, to enhance driver safety, comfort and overall experience – bearing in mind that the technology already exists. How we interpret and use this data will adapt to enhance the overall driving experience.

Car Sensors

Currently sensors monitor a car's safety and security. Imagine, in the future, if dash-cams could transmit photographs of accidents as they happen or report road damage. Data is sent to the relevant parties and a resolution is reached much quicker.

GPS Data

GPS data helps road users detect and predict traffic patterns therefore optimising certain routes. In the near future, it could assist in creating dynamic public transport timetables or perhaps it will decide to take a route avoiding high-crime areas.

Telematic Devices

These devices collect and assess individual driver behaviour. Currently, the likes of Discovery Insure uses telematics to monitor driving behaviour – such as maintaining the speed limit and avoiding harsh braking etc. This data could be used to determine a more accurate insurance premium by learning where the accident hotspots are and how they happen.

Existing Devices

As an example, let's look at road mounted cameras. These could be re-purposed to identify empty parking spaces to design more efficient parking solutions.

Omnichannel Transport Optimisation

This consists of data from all public transport – including ride-hailing apps like Uber and Taxify – to construct the most efficient route options.

Imagination Drives Innovation

The combination of multiple data sources presents a significant opportunity for South African tech start-ups to develop applications – to collect, analyse and construct new business models. There are many data analytics companies already in SA. There is also a strong ecosystem of mobile telecoms and associated technologies. The introduction of a 5G network and increasing cost-effective access to the internet will also accelerate the development of solutions that exploit these data sources.

The founders of French company, Mobeelity, saw an opportunity to assist commuters in Paris using data. The app helps company employees save time, money and CO^2 on their daily commute to work, by aggregating all modes of transport – public transport, carpooling, car and bike sharing etc. The opportunities exist here in South Africa. And we need to identify them.

An Aerial View

The development of Unmanned Aerial Vehicles, commonly known as drones, has captured the imagination of futurists and public alike. But drones are more than 'flying toys'. The uses and benefits are endless. This ranges from firefighting drones (limited by the pressure requirements of pumping water up to great heights) to exploration after natural disasters to the relatively mundane task of delivering packages. They range from tiny drones for insidious surveillance, to large drones that carry heavier loads for delivery or passenger transport.

The logistics sector is a large industry where drones could make a significant impact. A universal challenge in logistics is that of the 'last mile' – delivery to the final end user. Drones could substantially drop the cost of delivery for specific types of packages, like medicines and takeaway food. This has the added benefit of decreasing the number of car trips that would have to be made to fetch these packages.

The Road Ahead

We are many years away from the integration of autonomous vehicles in South Africa. The near future envisions our vehicles becoming connected – to the driver, other vehicles and infrastructure. The data is there. There is more and more data created every day. We need to tap into it. KPMG South Africa challenges entrepreneurs and tech specialists to investigate the opportunities that already exist. Ultimately, data will make mobility easier, safer, faster and more enjoyable. The future of mobility is now.

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