

How Autonomous vehicles may affect the insurance industry

By Nicholas Hutter – 15 December 2018

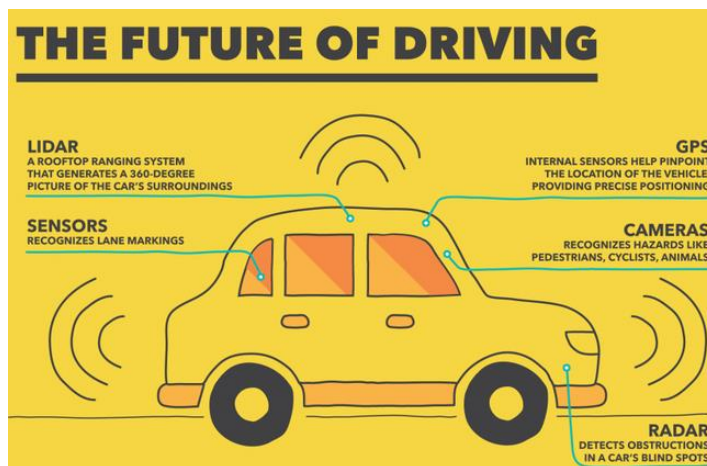
A new breed of cars is on its way. The autonomous vehicle (AV) revolution is making inroads to our everyday lives as it promises to bolster employment rates, reduce traffic and importantly, improve safety. However, the road to this future does have a speed bump - insurance. What will car insurance look like with the vast reduction in accidents? The traditional avenues used by car insurance companies to generate revenue could potentially be threatened by the introduction of AVs. Fortunately, time appears to be on the side of the insurance carriers.

It will take at least 25 years before most of the vehicles are driverless on our roads, according to Thatcham Research, a motoring body financed by the insurance industry. In the interim, there will be a mixed fleet of AVs and traditional internal combustion powered vehicles. Thus, although diminishing, insurance companies will have to contend with a continual pool of non-autonomous vehicles still undertaking all the risks associated with the current vehicles in the UK.

As car insurance companies gear up for a disruption to their industry, the distant future where all cars are autonomous is not what concerns them most; instead, it is the transitional period. The importance of which can be broken up into the short, medium and long term.

Short term

Essentially, the traditional underwriting techniques used with auto insurance risk modelling and pricing will need to evolve. Risk models currently focussed on driver attributes will have to be modified to focus on a sensor-driven ecosystem. This requires consideration of the technology's viability as well as the impact of infrastructure and local road conditions. The demand for new (and expensive) accident mitigating technology inside our vehicles is ever-growing and rapidly populating these ecosystems.



One might expect these safety features to lessen accident frequency and therefore drive premiums downward, but these sensors constitute their own unique risks and costs. These sensors are commonly fitted in vulnerable areas that often incur damage, such as front and rear bumpers. It is found that repairs in these areas can be at least five times more expensive than traditional repairs. The effects of which are already being felt by the English economy with AXA UK reporting an increase of 32%

in motor repair costs over the past three years. Initially, insurers could benefit from either raising prices or deductibles to cover vehicles fitted with the new safety technology but would risk consumers and regulators becoming hesitant to acquire these features. Therefore, in the interim, insurers might have to step back and accept the possibility of increased claims severity and settle the outstanding amount through the reduced frequency of these claims.

Medium term

While insurers in the industry anxiously await the contraction of multiple leading lines of income, AV's and ride-hailing services will begin to generate new loss situations that need to be insured against. This is where the insurers quickest to respond can capitalise on an emerging market. Here, artificial intelligence and automation are just some of the technologies that could allow insurers to offer a more tailored product and smarter focus in terms of client interaction. Today we can already see an attempt to incorporate new technologies across three crucial areas, namely; improved assessment, customer experience and mitigating risk. This is where new lines of business could be born, albeit in a move away from personal lines of motor insurance. As vehicles become more automated, risk might be transferred from the driver to the car manufacturer, depending on the route future legislation takes. Principally, future accidents will be caused by malfunctioning systems which will force manufacturers to insure entire fleets rather than individual drivers insuring themselves. This shift to product liability insurance from personal lines motor insurance may introduce large aggregation risk initiated by a failure across systems affecting numerous vehicles simultaneously.



Long term

Over the next 25 years, the growth in autonomous vehicles will bring about a shift that impacts not only driving patterns and habits but also vehicle ownership. The price and manufacturer liability associated with autonomous vehicles may mean that most of the completely autonomous vehicles will not be owned by individuals, but rather by auto manufacturers like General motors (GM), by Google and other technology companies, as well as by supplementary service providers such as ride-hailing services. Unlike individual ownership where often the vehicle is sitting idle, fleets of autonomous vehicles can be sent out by their owners on multiple trips during a 24-hour basis, which will amortise the cost of owning such vehicles. Actualisation of concepts like this are around the corner with automakers already beginning to trial fleet-based ownership for autonomous vehicles, as Uber revealed an autonomous vehicle partnership with Volvo and GM announced a similar relationship with Lyft.

As the number of individual vehicle owners shrinks, there will be fewer overall premiums paid. Furthermore, since approximately 94% of accidents are due to human error, the sum and severity of accidents and their corresponding claim sizes will surely plunge, thus leading to lower premiums and ultimately revenue. This disruption may ironically pose the greatest threat to current insurers, but at the same time provide them with a saving grace - new markets.

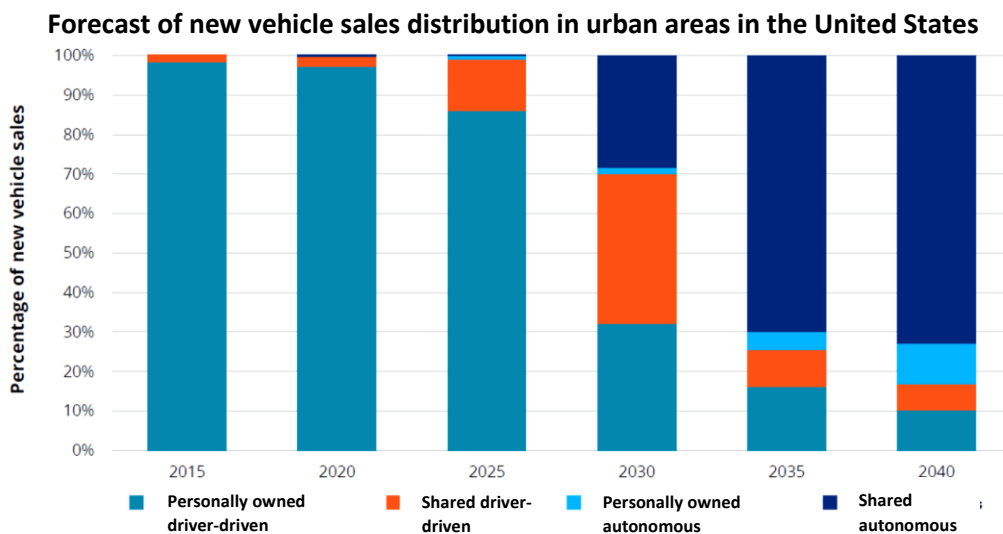
The threat of non-traditional competitors

As the market evolves, insurers may have trouble navigating the new coverage model. The new demand in the insurance industry could be satisfied and simplified by autonomous vehicle analytics and developers. According to a report by Morgan Stanley, more than 20% of the motor insurance industry will be taken over by these disruptors as technology companies leverage the terabytes of driver data amassed by Google Maps, Waze and other navigation apps to offer customers personalised products and services. Tesla has already taken the step forward in Asia by selling car insurance with their products, as they pursue their vision of eventually regularly including insurance in the final price of the vehicle.

The prospect of new markets

Ultimately, autonomous vehicles will have a significant impact on the insurance market and insurers must be ready. The risk profile of the automobile will be more heavily weighted than that of the driver in future rates, which is the opposite of current day policies. To better exploit opportunities, insurers will have to start pursuing solutions today that are not as dependent on the course of vehicle ownership. Such prospects may arise in the form of:

1. **Risk Coverage for infrastructure:** Although driverless cars won't rely on people, they will be assisted by cloud and other systems to retrieve data meant to improve the safety of the vehicle's passengers. These safeguards will offer projected annual premiums of \$500 million for casualty and property insurers who underwrite hardware and software.
2. **Hacking and cybersecurity:** As vehicles develop along the path towards automation, more hardware and software will be incorporated within the vehicle and will thus need to be insured against ransomware, cybertheft, information protection and hacking. According to John Cusano, Senior Managing Director at Accenture, this market could generate annual premiums of almost \$12 billion.
3. **Product Liability:** As discussed earlier, the number of sensors in vehicles is growing and most auto-related sensors come with a high price. The true risk to auto-manufacturers is the possibility of failure through algorithm flaws, software bugs or overflow of memory resulting in significant liability. Michael Costonis, Accenture's Global Insurance Practice Lead says this is a \$2.5 billion annual opportunity.



Inevitably, the market for auto insurance will change. Insurers, however, can adapt to keep themselves in the driver's seat. Insurers who actively pursue the opportunities introduced by cyber, infrastructure and product liability insurance in the short, medium and long term stand the best chance of thriving in the driverless market. Ensuring careful strategic decisions are made regarding which operating models to use, which ecosystems to partner with and what value propositions should be adopted will bring this potential to fruition. Failure to do so will leave carriers even more vulnerable to the threat of new entrants than they already are. As vehicle functions become more autonomous, a true understanding of these functions and driving data will become the primary influence in motor insurance plans. This understanding will pave the road for new non-traditional entrants, such as auto-manufacturers and tech companies. So, will current insurers be able to pivot and morph the business into something new? Or will they be overtaken by the new entrants who unintentionally appear far more prepared for the driverless market? The race is already hotting up and has only just begun.