Thought Leadership: Driven to distraction – how technology and regulations are "overloading" drivers

Have you ever had that discussion where your partner insists 'I told you', and you are equally adamant that 'no you didn't'? The most likely scenario is they did tell you but you were distracted at the time. In a similar way, drivers overloaded by expanding technology and regulations are being driven to distraction, which can have a major impact on safety.

In the past five years, there have been almost 300 instances in Melbourne of trucks hitting bridges that are too low for the vehicle to pass under. With most trucks having sensors alerting the driver to the impending crash, how is it possible that the driver didn't respond to the alert or didn't see the bridge?

According to Dr Lucia Kelleher, who has spent the past decade working with transport and other safety-critical industries, drivers are simply distracted at the critical moment and their brain fails to register the alert or impending danger. Two contributing causes of that distraction are the growing influence of technology in our daily lives and the level of regulation drivers and the industry are exposed to.

Driven to distraction

'Distraction is simply a result of a brain overload,' Behavioural Neuroscientist Lucia Kelleher says, 'but the consequences of brain overload on cognition and attention can be catastrophic, particularly in safety-critical areas because people literally don't see things in front of their faces.'

Technological advances in the past two decades, driven in particular by the expansion of the internet, has allowed instant transfer of information. This explosion in information has resulted in an increase in the amount of 'stuff' we are dealing with – and our brains are processing – at any given moment.

Within transport, expanding regimes of rules, regulations and procedures have added another burden in terms of cognitive load on drivers and are contributing to brain overload.

When the brain is overloaded, Lucia explains, it economises energy by putting less focus on thinking and pushing us into autopilot. That's why drivers can inadvertently drive through a red light or not hear a warning sensor. It's why we can often make the commute to or from work without remembering parts of the actual trip.

'The driver makes that decision in the moment, like the truck that hit the bridge. In the moment, the driver was distracted. All the driver should be

focussed on when he's behind that wheel is paying attention, but there are so many other things going on with the brain overload, often they're miles away.

'Think of the brain as an energy system. The less energy is available for thinking processes, the more things gets pushed into automatic habits, and there is no cognition when we are in this space. Ninety five per cent of incidents are caused by human factors – people just didn't see it, hear it, didn't pay attention. Brain overload is a major contributing factor.'

Compliance culture

Like many other industries, there has been little discussion of this concept in transport, particularly as it relates to safety. The approach has traditionally been to implement rules and regulations, operating on the assumption they translate into safer drivers and safer procedures.

In practice, this has fed a compliance culture where the focus is more on 'ticking the box' than encouraging individuals to behave and respond how regulations intend. Similarly, the objective of increased automation in everyday practices has been increasing safety while improving productivity. However, like the drivers who end up stuck under a bridge, an automated alert may not be heard when the driver is distracted. In the UK, for example, there have been reports of alarms designed to alert road workers when they are too close to traffic not preventing workers being hit; they were not paying attention when the alert sounded and their overloaded brain overrides the alert system. In Australia, one major road contractor has banned the use of mobile phones to counter distraction among road workers.

In comparison, there are very few plane crashes from pilot error. Lucia explains the difference with the transport industry in terms of the level of training.

Pilots are trained to respond to the situation, rather than focussing on the rules, at the critical moment. When they go into autopilot, professional pilots have their procedures so ingrained they don't have to think about their actions.

'If something happens, pilots go into response mode not reaction mode. When you're in response mode, you're right there. Drivers often go into reaction mode because they weren't there, so they're in a panic. Sometimes you might do the right thing, a lot of the time you don't. The rules get pushed out because they are in panic. While this applies to all drivers, it is obviously more important for truck drivers, who are subjected to many more regulations than other drivers.'

Returning the balance

As well as examining the training drivers receive to ensure they respond rather than react to an incident, Lucia believes re-examining the level of industry regulation is also required.

While not suggesting rules are not required, she believes the driver needs to be central to safety regulation, and a balance returned to consider the driver's experience and the role it plays in influencing safety. The balance has shifted too far towards regulation and punitive measures, and away from empowering drivers, in the name of increasing safety.

'We're starting to see a swing back and in conversations I'm having with people in the transport industry, they're saying we thought that making people work to rules and regulations would make them safer but it hasn't.

'When we're talking distraction all of the factors need to be considered, and at the end of the day the human is sitting behind the wheel and in every moment they are making decisions. In that moment that the accident occurred they weren't engaged, they weren't aware, they weren't paying attention. A two second lapse and lives can be changed.

'The person who's behind the wheel in the vehicle, that's the person everything should be centred on and it's not. If we consider things from the driver's perspective, we realise that they have to make the decision at the critical moment. We can't assume the rules are always going to be applied. Rules are there but people make the decision.'

Brain rewiring and overcoming distraction

Lucia believes there is a growing awareness within the transport industry that the compliance focus is not always directly translating to increased safety. More companies are 'tuning in' to the impact of rules and procedures on the driver's ability to remain focussed and make good decisions.

While growing technology has had a significant impact on the human brain, it is our response and how we choose to react that has allowed technology to dominate our lives. Through mindfulness and other techniques, we can teach our brains 'to override the overload' and improve our ability to pay attention.

The biggest cause of distraction while driving is thinking about things that are not related to driving and getting the job done. Creating 'triggers or anchors' helps keep drivers focused behind the wheel. Drivers who have successfully overcome distraction have used a simple visual – such as the 'Focus' sign – that they place in their line of vision to remind them to stay focused.

'What is important is not the object specifically,' Lucia says, 'but the programming that goes with it: stay focused on driving, don't think about other things. Those drivers who use sensory triggers such as this visual cue and practice noticing when they lose focus and then pivot back to paying attention actually re-wire their brain.'

The key is that every time drivers start their day and see this image, it triggers their mental programming: practice noticing when they lose focus. Within three weeks of practising this every day, drivers will have mostly broken their habit of drifting off but they will need to continue to practice over time. Such techniques have become a daily habit for drivers who rarely drift off.

'The overload is not going away because the environment is not going to change – we're never going back to the days before technology,' Lucia says. 'So what we need to do is adapt ourselves. It's how we react as humans, so we need to learn to override the way we automatically react.'

We acknowledge the assistance of Dr Lucia Kelleher in compiling this piece. For more information on overcoming distraction, visit peopledata.com.au