three (or more) distinct research questions:

this research is aiming to help robot (autonomous system) to earn the trust from people. And this research can be expanded to be applied on other HRI (Human Robot Interaction) field. The AI has been applied to assist numerous fields in various aspects; however, in terms of safe related topic, people haven’t fully trust AI yet.

Three research problems:

1. Can driverless car really make you enjoy the journey? (Survey)
2. Do you think driverless car can make your journey safer? (Survey)
3. Can autonomous system help people to avoid accident on the road? And how useful it is? (technical statistics)
4. How can driverless car help people to avoid accident, such as car crashes?

(How does it work?) and (How many things it could do?)🡪 (Technical)

1. Is driving enjoyable in your life. (Is driving fun for you?) (The car is more than just a transport tool) What kind of driving journey you want to avoid, and what kind of driving experience you want to have? (Statistic) <Looking for customer tendency> Driverless car shouldn’t be used for serving some special groups of people.

People should trust robot or autonomous system more

1. Problem statement

Topic: how can people trust the autonomous system, the robot inside the car?

The technology has been developed and refined to assist people in various aspects. One important step is the technology is able to alleviate the safety concerns. The car crash, which accounts for a large number of fatalities, is an emergent topic people are tackling with. Many safe related technology or devices have been developed to protect people when they are driving, such as auto emergency braking (AEB), traction control system and autopilot system. These systems have successfully saved people’s life and trusted by human even they are not perfect yet( https://search-proquest-com.ezp01.library.qut.edu.au/docview/1801137860?pq-origsite=summon ). However, these technologies are merely assisting driving, which can’t liberate people from the boring driving task. Hence, some semi-autonomous cars start to provide a function which enables the car to drive by themselves in certain conditions, such as driving on the highways and freeways, which are relatively simpler than driving in congested cities to the machine( <https://search-proquest-com.ezp01.library.qut.edu.au/docview/1651928135?OpenUrlRefId=info:xri/sid:summon&accountid=13380> ). According to ( http://ieeexplore.ieee.org.ezp01.library.qut.edu.au/document/8080540/?reload=true&anchor=references ), although this function is available on the vehicle, their owner use it rarely and skeptically. Moreover, art of users will oversee the function of autopilot rather completely served by the autonomous system. People are still worry about passing the steering wheel to robots, and autonomous cars are still not prevalently accepted by public. If people can’t even trust the semi-autonomous car, then how can people completely pass their steering wheel to a robot in driverless car? This trust issue has included both social and technical problems. The autonomous car should be able to prove its ability to be credited with saving life. Also, they society can be educated to understand the benefit of adopting driverless car. In order to be ready for the age of autonomous system and use these systems to improve our life, human robot interaction (HRI) has become a significant factor. Therefore, the problem of helping driverless car to earn the trust of public has to be tackled immediately.

The driverless car can be applied to reduce the road accidents and liberate the driver from exhausting driving. Firstly, even the driverless car can’t completely prevent car crashes, it can still be a good driver since the autonomous can be set as law-abided, which can protect the passenger from the risk of breaking law. Moreover, more than 90 percent of car accident in USA involving human carelessness or other driver errors.(<https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115>). In terms of technology, the autonomous car has a difficulty to drive in the congested areas due to the vehicles with human driver are hard to be predicted(https://search-proquest-com.ezp01.library.qut.edu.au/docview/1856560516?pq-origsite=summon). However, if most of cars adopt the autonomous system, the system will have a better performance on predicting the condition on the road. Secondly, rather than concentrating on driving, the drivers can become passengers to pay their attention on other things. Driving, especially long distance journey, can exhaust drivers’ concentration and cause fatigue, which endangers the drivers and passengers considerably. Therefore, if people can fully trust autonomy, commute or traveling by car won’t be time and energy consuming.

<Trust>

Technical:

Privacy: How can we make the user’s personal data secure?

Social:

Why people think they can drive better and safer than autonomous system?

Business:

Exaplaninig,

1. If the driverless car is safer, would you adopt it?
2. How many people don’t want to pass the steering wheel to customer because they consider driving enjoyable. (will be related to the ethical issue, if the human is drunk robot) <not regarding to trust problem>

They’re not considering the safe issue, they purely think the function of cars is similar to toys.

<not abt trust issue >

Business: How can we effectively explain the principle of autonomous vehicle to public?

How can we convey the concept that the autonomous car is safer to public by testing.

<abt sending out the message>

Interviewing

Government organisations are increasingly turning to digital solutions to support them in administering the law and delivering services. To achieve this, laws1 need to be translated into business requirements which are used by computer programmers to develop software.

Business requirements requires clear, unambiguous, logical rules. However, there is a great deal of complexity in the law, including vagueness and the complex interrelations with other laws. A high degree of skill is required to write business requirements that correctly reflect the law. There is a risk that the law is interpreted incorrectly (or cannot be applied correctly) that may result in the law being administered in a way that was unintended by parliament. The extent to which this occurs is unknown and not addressed in the literature.

The literature confirmed the complexity of the law and the problems this causes to users. To overcome this complexity various solutions were proposed. The common theme of the solutions was to apply more structure and logic to the law. This could be achieved using tools or models that supplement the law or by drafting the law differently.

Ideally, laws that will be administered digitally could be drafted with better structure and logic. This would reduce complexity and enable them to be easily converted into business requirements. There seems to be little support in the legal profession and political system to achieve this. The literature suggests this could be overcome by demonstrating the benefits of reduced complexity by testing logical modelling of the law in a distinct area, such as tax law. The literature review did not identify any published work in Australia. However, the Australian Taxation Office has a strategic focus on delivering digital services in administering the Australian tax system (Australian Taxation Office, 2014). This creates a potential opportunity for future research.