Regulation of new technology: Institutions and processes

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Project description

1. The goal of this project is to consider which institutions and processes are most appropriate for accommodating new technologies into New Zealand's regulatory and legal frameworks.
2. The project will:
    a. Map the kinds of issues which new technologies commonly give rise to.
    b. Consider the current approach to accommodating new technologies.
    c. Look at alternative institutional and procedural options based on first principles and the experience of other countries.
3. New technologies and associated business models such as bitcoin, drones, Uber, Airbnb, autonomous vehicles, grid scale battery technologies and digital rights management give rise to a wide variety of regulatory issues.
4. This project will not attempt to solve any of these issues in respect of any particular technology. Rather, it will seek to understand what overarching lessons can be learnt about the appropriate regulatory institutions and processes for accommodating such technologies.
5. The project will start by cataloguing the regulatory issues which commonly accompany the introduction of such technologies. The following list sketches some of the issues that arise:
    a. <u>Awkward fit with current regulatory models</u>. It is common for a new technology to be an awkward fit with existing regulatory frameworks. For example: Uber did not fit neatly within the existing categories of commercial passenger transport service; and domestic solar power and grid-scale batteries challenge the assumptions that underpin regulation of the electricity market.
    b. <u>Disruption to incumbents</u>. Incumbent businesses may be adversely affected by new technologies. For example, Kodak entered bankruptcy at the hands of digital cameras and traditional taxi companies seek protection from Uber. While the appropriate reaction may often be "that's just competition", greater complexity arises where the incumbent is subject to economic regulation and claims it is entitled to an economic return on its assets. For example, although price control has been imposed on electricity distribution businesses to protect consumers from monopoly pricing, the question arises whether they should be protected from asset stranding if distributed generation and self-contained micro-grids become significant competitors because their investors have relied on the expectation of a normal return.
    c. <u>Privacy</u>. Privacy law consists of a set of rules and principles that balance the right to privacy against competing interests. The practical effect of these rules depends on the technology of the day. So, for example, online data collection and sharing, the ubiquity of camera

enabled devices, the ability for drones to be purchased cheaply and flown with no training and improvements in facial recognition software, all erode the sphere of privacy in our lives.

d. Increasing technological dependency. We increasingly rely on the availability of the internet for communications, news, shopping, banking, supply chain management, etc. This will only increase with the "internet of things" as more appliances become connected. An important question to ask, particularly given the possibility of distributed denial of service attacks and other vulnerabilities, is what would happen if we lost access to the internet for a day, a week or a month?

e. Consumer rights: New technologies give rise to novel consumer issues. For example:

    i. The migration from tangible goods to digital services has meant that digital rights management has become as important as (if not more important than) intellectual property rights for determining what consumers can do when they purchase something. For example, I can gift, share or re-sell a physical DVD, but a movie I have "bought" on AppleTV gives me a personal use right with no facility for transfer.

    ii. Many New Zealanders will have bought bitcoins and other cyber-currencies out of interest or as a speculative investment. What form of consumer protection is warranted given the bubble-like characteristics of the bitcoin exchange rate?

    iii. Do I have a right to be charged the same price as everyone else for an airline ticket? Or, can an airline tailor individual pricing by assessing my past browsing and purchasing behaviour for business travel?

    iv. We expect to be able to move between physical spaces and communities. Should Facebook be required to help me move to a new online social network?

    v. Should consumers have a right to be free from apps that are intentionally designed to create addictive behaviour through "likes" and frequent interruptions?

f. Liability issues. Important issues arise over responsibility for "intelligent agents" including autonomous vehicles. In other common law countries such issues may be resolved though tort law principles. A particular issue for New Zealand, is whether the accident compensation scheme bar to actions for personal injuries by accident means that there will be a gap that causes consumers to subsidise producers and insufficient accident deterrence.

g. Competition issues. It has been observed that new technologies often exhibit "network effects" which favour an incumbent (that is, people are most likely to join the most popular social media sites rather than a technically superior offering with fewer members). Similarly, companies promote digital "ecosystems" of devices that work together

seamlessly, but not so easily with other brands. While such features may lessen competition, on the other hand, interventions that encourage interoperability or facilitate switching may risk reducing innovation and the emergence of such platforms to begin with.

6. The second part of the analysis will investigate the approaches currently used in New Zealand by Government departments and regulatory agencies in relation to accommodating new technologies. It will provide a qualitative analysis of how New Zealand has responded to new technologies issues to date. It would ask whether current institutions and processes are timely and effective.

7. The third part of the analysis will broaden the inquiry by looking to first principles and international comparators to identify alternative model laws, institutions and regulatory processes that could be adopted. The questions to be considered will include:

    a. In light of the issues commonly raised by new technologies, what principles or rules of thumb might guide our regulatory responses?

    b. As well as solving specific issues as they arise, how do we ensure that new technology is approached holistically so that gradual system-wide changes – such as our increasing reliance on internet availability and the risk of lower and less stable employment – are also accounted for?

    c. Are there sufficient commonalities between different new technology issues to justify a central institution to monitor and co-ordinate the regulatory response to new technologies?

    d. Are there new approaches to amending regulatory regimes to accommodate new technologies that should be considered? For example, should it be possible to modify the application of existing regimes on a transitional basis or to create a test environment? And who should exercise such powers?

    e. To what extent can/should regulation of new technologies be embedded into the technologies themselves?

8. There is a significant literature on the theory and practice of regulation including the work by Julia Black, Martin Cave, Robert Baldwin, Stephen Littlechild, Stephen Breyer and Cass Sunstein, as well as the Law Foundation's Regulatory Reform Project. However, there has been little work focused on the interface between regulation and new technology (Roger Brownsword is a notable exception). The work is important for New Zealand, cutting-edge, and should also assist other groups working on specific technologies.

9. As well as taking an academic approach, the project will be informed by contemporary regulatory issues – such as those created by drones, autonomous vehicles, Uber, distributed generation, and grid scale batteries – so that the findings are as practical as possible.