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The Digital Economy and Society

A preliminary Commentary

Introduction

Virtually all technologies that humans have invented or will invent present both benefits and risks.¹ The history of humankind is that of invention, development and exploitation of technologies while managing their downsides. However, it is the speed, scope and pervasiveness of digital technological change across virtually every aspect of human endeavour that generate an enormous array of possible implications. Such characteristics undoubtedly set the digital revolution (sometimes called the fourth industrial revolution) apart from past technological revolutions in the way they challenge aspects of human behaviour and social institutions.

Digital innovations – much like previous innovation – are created by individual entrepreneurs or private companies.² Thus, while profoundly affecting individuals and societies, these innovations are rarely subject to significant pre-release discussion, societal debate or anticipatory regulatory processes. Instead, ‘trial by market forces’ has been the history of many – but not all – technologies in the last two centuries. However, in situations where there has been anticipatory regulation to limit the use of particular technologies, this has generally been driven by perceived financial risks to existing firms rather than by any other type of risk assessment (even though the arguments may often be dressed as the latter). In other words, it is rare for there to be deliberative societal reflection and debate that goes beyond managerial risk assessment to address instead the normative (‘ought we?’) questions surrounding the introduction of new technologies.

In general, governments are either very precautionary or, conversely, they are rather hands-off with regard to new technologies. In the latter case, they may then have to react to any consequences that

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follow. To some extent this is the classic conundrum of risk assessment, in that the arguments for or against any technology are always filtered by an assessment of likely gains and losses (and for whom).

In the case of the digital technologies, the perceived immediate and generalised benefits have meant that there has been rapid adoption of the technologies, while the broader implications have been given little robust critical consideration. Consequently, societal and regulatory precaution has largely been non-existent.

Further, the inherent nature of both current and future digital technologies means that many elements may well be beyond either a precautionary or even a *post hoc* regulatory approach. In contemplating the rapid development of the 'internet of things', artificial intelligence

digital revolution is bringing to the role of the state, the social fabric of nations and for individual citizens and their relationships. The question is which concerns are real, which are simply alarmist, and can we adapt to the inherent challenges that arise and optimise the opportunities? Clearly, the perception of risks and benefits will differ among stakeholders. It is beyond the scope of this article to take a position on these issues; it can simply highlight them.

It is important to recognise that both direct and indirect effects arise from the digital world. For example, in some cases it is not easy to distinguish the impact of digitalisation from other trends such as economic globalisation, which, while a separate phenomenon, is greatly facilitated by the digital world.

effects on labour: some of this is discussed below.

The digital revolution has played a major part in the globalisation of economies through talent and value-chain distribution. Rapid information transfer and access, data sorting and transnational capital and financial interactions have all become essential to the globalised economy. It has enabled a new wave of fiscal instruments (e.g. derivative markets) that have played a major part in the development and sustenance of some economies. Internet-based technologies have allowed a global trade in services to develop alongside that in goods. This has benefited a broad range of economies.

Big data has enormous potential for the development of new kinds of services and opportunities, such as for forecasting in financial services, policymaking, and in advancing science. The data revolution has already generated new forms of business and business models where information is gathered, often for no cost, then mined, manipulated and sold at great profit.

Some governments, such as New Zealand's, are investing heavily in data management and services specifically to support public policymaking. This investment has made it possible to use longitudinal and linked data to make more accurate life-course projections, which in turn has led to better framing of the policy intervention discourse. For society and for the individual, better data management by governments has brought practical conveniences such as e-services (e.g. passports, tax services, etc.), e-health and mobile phone-mediated health services.

Internet-based technologies have brought markedly enhanced communication capabilities and improved information access to both individuals and organisations, including companies. The consequent empowerment of individuals in both economically developing and developed countries through access to networked technologies such as smart phones and their plethora of 'apps' has conferred major benefits. In general the internet has given great benefit to individuals, organisations, companies and science.

The nearly immediate accessibility of information and knowledge can create

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and machine learning, the indications suggest that we are only beginning to feel the very rapid change in societal, consumer and citizen behaviours. With such change, there are implications for the way people live their lives, how societies operate, how democracy works and the extent of state authority. Indeed, some newer technologies will challenge us in many ways. For example, to what extent will artificial intelligence ultimately affect our sense of autonomy and self-determination? As with any fundamentally disruptive technology, there will be both foreseen and unforeseen consequences and, with them, winners and losers. These issues demand deep consideration.

Beyond the obvious issues such as the changes in manufacturing processes and in service delivery that affect traditional industries and employment patterns (with both personal and political implications), there is now also a rapidly emerging set of broader issues that society must consider. There is a growing recognition of the profound and irreversible changes that the

The benefits of digital technologies and DES: a growing list

There are undeniable and numerous manifest and potential benefits of the digital economy and society – DES – which have generally been well described elsewhere and which are self-evident. These many benefits have been heavily promoted by both governments and industry and can only be summarised here.

The OECD has published a number of reports pointing to the positive effects of digital innovation and technologies on productivity. Clearly, the digital revolution is spurring innovation, enhancing service delivery in every sector and leading to increased productivity. However, a mismatch has emerged between the extent of the expected productivity benefits of digital technology investment and the consequent impact on economic growth as measured by GDP. This mismatch may reflect the limitations of the latter measure or temporal phenomena, but the digital economy may also exert some unrecognised drag through other effects, such as the

social mobility. For many people it has also created new social connections, reduced isolation and given a sense of personal empowerment. The use of leisure time has also changed drastically through access to a broad range of entertainment media, as well as ongoing engagement with social media. These are now the dominant forms of leisure for many, particularly for the digital native generations.

Emerging issues related to digital technologies and DES

Despite these clear benefits, the challenges of the digital revolution are also becoming apparent. These challenges will be considered here at three overlapping levels: the nation state, communities and the individual. The impact on education systems is discussed separately.

The reach and authority of the state

The digital economy and internet-based technologies more generally have led to the rapid rise of major transnational companies with unique knowledge and extraordinary access to data, and with consequent ability to influence individuals, governments and global affairs. Transnational corporations have existed for centuries (e.g. the Dutch East India Corporation, which was founded in 1602, or the Hudson's Bay Company founded in 1670). Digitalisation, however, has led to a qualitative change in the reach of today's transnational corporations. This is particularly so for the digital platform companies such as Google, Facebook etc.

For instance, the ease of access to taxation minimisation strategies is now greatly enabled, if not empowered, in a digitally connected world. Such practices are clearly challenging the traditional income base of sovereign states, which in turn throws into question the social safety net it can provide. Indeed, the sovereign authority of the state to regulate many socio-economic activities may be eroding. Regulation of marketing and some aspects of consumer protection are made more difficult with a globalised cultural economy of sales and marketing via the social media and the internet more generally (e.g. pharmaceuticals, alcohol, tobacco, or products aimed at children). Any ability to prevent harmful messaging or communication (e.g. terrorist-related,

cyberbullying, sexual predation) is similarly impeded.

Within new social media there is also clear ability to engage publics and to create social movements for both good and bad. The need to protect and promote freedom of expression while sanctioning predatory practices and protecting vulnerable groups is obvious, but how best to do this is not. Are we experiencing a neo-imperialism, with de facto 'global' internet standards set by the companies with the most dominant online presence irrespective of national values? Where national values do exert themselves, they can be difficult to maintain in the face of internet giants. This is seen in the very different approaches to internet privacy taken by Europe and the United States and in the subsequent legal battles emerging over issues such as

manage regulated activities such as gambling and pornography.

Even sovereign states' traditional control of financial and treasury infrastructures is not immune to the effects of rapidly advancing digital technology. The blockchain technology that underpins bitcoin represents the kind of technological development that could greatly enhance the ability of the state to reliably manage internal payments while reducing the potential for (say) welfare fraud. However, the disruptive aspects of this technology mean that the fundamental role of financial institutions (and, by extension, the state's financial regulatory reach through these institutions) could diminish. In addition, it is not clear that we have fully considered the darker possibilities of the blockchain system, particularly if associated with

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internet neutrality and rights of individuals to privacy.

The question of ownership of and access to data creates many issues. For example, the recent debate in the US over access to data on a cell phone in the context of terrorism investigations illustrates the inherently conflicted issues that are emerging.

The development of encompassing horizontal platforms such as Google has greatly accelerated globalisation and in many ways has 'flattened' traditional societal structures and hierarchies. While this can be seen as empowering for citizens, the pervasiveness and misuse of such platforms can have impacts on policymaking that are not necessarily positive. For instance, the effects of the platform technologies can diminish the power of competition policy and the regulation of commerce, not to mention undermine the power of the state to

advanced encryption capabilities. Could these undermine traditional banking systems and undo the progress made to date on greater financial transparency?

Highlighting the dark side of the internet can be dismissed as fearmongering, but there is good reason for governments to be concerned. The rise of terrorist activity has clearly been greatly aided by the digital and communication revolution that allows for secure messaging, alongside broader recruitment modalities. Further, the darknet is used by criminal organisations for financial crimes and trading in illegal materials.

The rise of cybercrime in the past two decades (from deception to phishing to industrial and political espionage) has created a cyber arms race in which any internet-connected system is potentially vulnerable. Cyberattacks and cyber-espionage can pose major threats to the security of states as well as to legitimate

enterprises within them. Cybersecurity relies both on technology and on human factors. While human factors have always been a risk for companies and states, the volume of information that can be accessed and analysed, and thus the potential impact of security breaches, have magnified enormously. Further, not only are risks created by commercial and security espionage, but also by the insertion of malware and misleading information into critical systems. We have seen increasing

forms of misuse by governments mean that transparent and well-understood social consensus is needed between the state and citizens regarding data use. The recent concerns over an integrated health data system in the United Kingdom highlighted the fears of the public and the challenges created if nation states move ahead of social consensus. The Data Futures Partnership³ is an important part of New Zealand's attempt to reach such a consensus.

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evidence of cyberespionage affecting democratic processes and being used to harm individuals as well. In this new context, traditional libel laws seem to become less meaningful.

The nature of warfare is changing as a result of the digital revolution, including the potential for new forms of asymmetrical warfare. With an increasing amount of personal, professional and government transactions conducted online, we have created new targets for attack and the risks of cyber sabotage create new challenges for national security. The dependency of society on an effective integrated digital system may create points of extreme vulnerability; a Carrington-level solar radiation event would be a natural equivalent.

At the same time, there has been a massive rise in the ability of sovereign states to monitor activities of individuals and enterprises. With this ability, however, comes the risk of a shift in the perceived and actual relationships between the state, private citizens and the public safety apparatus. While big data offers enormous opportunities for states (and businesses) to provide better and more targeted services to citizens and to inform public policy, the risks to individual privacy or of other

Similar concerns over the misuse of data that is held by private sector companies will almost inevitably boil over at some stage. At the moment, most of us are probably relatively unaware of the amount of data held by companies in exchange for our ability to use their apps. Indeed, corporations are able to extract large amounts of data (presumably for financial gain) from individuals whose broad consent is tied to installing and opening their software. As data from the private sector gets on sold, the potential for misuse by unknown groups grows. Such onselling without known consent is likely to be impossible to regulate across national borders. A now famous experiment at Facebook⁴ that intentionally manipulated the mood status of unwitting users without their consent and with totally inadequate ethical oversight highlights the potential power over individuals and society that lies in the hands of platform companies.

The greater access and immediacy of information (of variable quality and reliability) to private citizens is also affecting the nature of democracy and public discourse. The nature of journalism and the fourth estate more broadly has been changed dramatically by the digital

revolution. It has been argued that this is having an impact on democracy, at least as it has been practiced for the last few decades.

The rise of transnational social media and citizen journalism, while empowering citizens, has also challenged the traditional institutions on which democracy relies. The extent to which this is a direct effect of digitalisation may be debated, but there can be no doubt that this shift is empowered by the digital revolution. Internet-based and social media have accelerated the demise of traditional journalism, an institution of democracy that is marked by its rigour, its ethics and its professional codes of practice. By contrast, citizen journalism may open the landscape to a diversity of voices, but how many of these meet standards of professional journalism? Unfortunately, the marketplace dictates that extreme opinion and sensation is more lucrative online than journalistic rigour.

Budgets are cut and serious media outlets are losing their capacity as an instrument of true democracy. In the competition for an ever-distracted readership, complex issues are trivialised through either sound bites, clickbaiting or sensationalism. Effectively, there is no editorial responsibility for accuracy. The apparent decline in the quality of national discourse is amplified by the echo chamber effect of social media whereby individuals' biases are reinforced by only hearing from people with similar views. Similarly, the algorithm-driven 'news' delivered by media platform companies reduces the diversity of stories and analysis that individuals may receive. Has democracy been harmed by an increasing disregard for both accuracy of information and quality in-depth analysis?

Representative democracy has long been the mechanism by which elected individuals are charged with understanding, assessing and making decisions about complex issues on behalf of citizens. However, now the immediacy of digital interaction is such that a more direct engagement is emerging. Unfortunately, this engagement is not always underpinned by quality information and thus limits the scope of serious and informed public discussion and debate. The ability for quite misleading

information to be widely distributed can affect, and in some countries has already affected, democratic processes, as well as how societal consensus is formed.

While it is now widely remarked that ours is a 'post-truth' and 'post-trust' era, it is equally observed that this is really nothing new. False claims have been made for centuries in search of political gain. What is new, however, is the pervasiveness, speed and unaccountability of (intentional and unintentional) misinformation, and coming at a time when many communities feel disenfranchised and are thus primed to receive it.

Filtering the mass of highly variable information is made more difficult because of the conscious and unconscious biases we deploy in the way we select, curate and evaluate it (not to mention the way the information is selected for us via scripted software algorithms).

Impacts on society

Emergent issues of privacy and data ownership are growing rapidly. There are fundamental questions related to the balance of rights between an individual's privacy, freedom of expression and the importance of free enterprise in societies. In general, all countries have yet to resolve how the 'right to privacy' should be maintained in a digital world, on the one hand, and how this is to be balanced with the promotion of public policy and commercial innovation on the other, especially now that big data is the new gold rush for many sectors.

A further issue has been highlighted in a recent White House report which considered the potential risks posed by biased algorithms that affect various uses of data, such as decisions over individual credit ratings, and, indeed, even decisions made by government (e.g. in sentencing guidelines). Algorithms need to be both transparent and tested for potential or latent bias. Accountability for algorithm-derived decisions will also need serious consideration: who is accountable when artificial intelligence decisions lead to adverse unintended outcomes?

There is a related set of concerns developing around artificial intelligence, automation and the future of employment. This is a major topic and will not be given

extensive consideration here, apart from recognition of the widespread acknowledgement that digitally-driven innovation is reducing traditional job opportunities as firms move toward greater efficiencies through jobless growth.

Even with vocational retraining, success in regaining jobs lost to automation may be lower than is frequently stated. The rise of machine learning and artificial intelligence will almost certainly lead to further losses in vocational areas that, to date, have been relatively immune to job

in antagonism to globalisation in various sectors of society. The issue becomes how to address this unease, given the irreversibility of the digital revolution. Similar discomfort and concerns surrounded the first industrial revolution – although the Luddite movement which was a symptom of this concern was not, as it is sometimes portrayed, anti-technology.

Impact on education systems⁵

Because so much of the impact of the

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loss. The policy issues that emerge from this are already challenging to governments and societies, and can only grow.

In turn, disruption of the traditional labour market may have major implications for the social structure of societies, signalling the need for a social safety net to support those affected, at least for the transitional generation. This is in fact one of the arguments that underpins a growing discussion about universal basic income policies. The pace of digitally-driven innovation may well lead to major generational divides. Effort will be required to maintain inclusivity for those who could be excluded by age, locale or disadvantage.

Paradoxically, the digital world can also compromise the work–life balance in the opposite direction by virtue of the fact that many workers are never truly 'switched off'. This situation is exacerbating work inequality, increasing the workload of some while compromising the work potential of others.

Taken together, these issues surrounding the digital revolution are probably factors contributing to a growing sense of societal discomfort and the rise

digital revolution will be borne by the current younger generation, it seems fitting to look specifically at the education system that is initiating them into this world.

Much is made of new digital and networked technologies used in schools to promote what are called 21st-century skills. Here there are numerous implications for education systems. These various trends increase the need for an educational system that can give children and adolescents the skills needed to cope with and distinguish the burden of information, while also critically and constructively using that information.

There is data to suggest that new technologies may have the effect of shortening attention spans of learners. This must affect the fundamental construct of education and pedagogy. New digital technologies also influence the skill sets that should be provided to young people, not just in matters digital but also in areas such as critical thinking so that they are better able to identify reliable from less reliable information. Executive non-cognitive skill development, which starts in early childhood, will become even more

critical if automation replaces many jobs with low requirements for such skills.

The ubiquitous use of digital tools and environments afforded by mobile devices, social media and the internet creates both risks and opportunities for the development of young people's social, emotional and critical thinking skills. For example, multitasking is common in schools that have widespread digital adoption. This includes presentation of multiple sources of information on a single monitor screen, working on several open windows, using interactive whiteboard technology and engaging in activities in

development, with increased distractibility being associated with higher amounts of use for younger children and also addiction-like behaviours or pathological engagement for older children. Cyberbullying among children and adolescents is a growing concern, particularly in schools. It has effects on proximal measures of health and school performance (e.g. dropout rates and academic performance), as well as longer-term costs. It seems plausible that the access to digital devices is increasing both the nature and the prevalence of bullying.

point to other radically changed behaviours in the rise of 'selfie culture' and the sharing of previously private matters with a potentially global audience. New expectations that go unfulfilled could lead to new and complex mental health implications. Furthermore, there may be effects arising from greater sexualising practices, particularly of youth, which are not yet fully understood.

An issue we are yet to consider is the potential impacts of artificial intelligence and machine learning on our sense of autonomy and self-control. It is generally accepted that emotional health is heavily dependent on these two concepts, but these emergent technologies may impact on both in uncertain ways.

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online or video game formats. Multitasking has both costs and benefits for cognitive and brain development. There can be costs in terms of efficiency and accuracy of performance, especially for younger children whose attention systems and executive functions are immature.

There are positive impacts on academic performance and cognitive development from multitasking and from wider digital environments, including games. The benefits accrue when tasks are sufficiently complex and developmentally appropriate, where there is greater self-regulation and engagement, and where there is substantial teacher guidance. There is evidence to suggest that there can be positive effects on self-control, collaboration and cooperation from games and computer-mediated activities, especially when the design of the activities, the game platform and teacher guidance and feedback enable these. Adding games to business as usual in the classroom is associated with significant positive outcomes on intrapersonal measures (conscientiousness, intellectual openness, work ethic and self-evaluation).

There may also be other adverse effects. The duration of use of digital devices is emerging as a risk for cognitive and social

Impacts on individuals

Given the plasticity of the human brain at younger ages, it is not clear what impact digital technologies may have on long-term brain function, emotionally, socially and physiologically. It may be that they affect emotional and personality development, while the altered leisure patterns clearly affect physical health (e.g. contributing to obesity).

The ubiquity of the internet and social media has led to fundamental changes in the way we communicate with others. Networks of people (often misleadingly called 'friends') are expanded, with multiple and uncertain consequences. These may variously reduce or paradoxically increase social isolation and even play a part in the selection of romantic and sexual partners. There may be deeper consequences: evolutionary biology suggests our brains are designed for much smaller networks than many that people often now have.

The upside of this changed nature of interpersonal communication may be obvious, but it has led to a number of concerns. Certainly, anonymity allows for changes in communication that break previous social norms. One might also

Final comments

The digital revolution is unstoppable and irreversible. The speed, scope and pervasiveness of digital technologies is profound. Like every other technology-driven change, it has benefits and challenges. Further, the direction of change is largely driven not by the deliberative decisions of citizens and their representative governments, but by the private sector and by social movements that are given emphasis through the echo chamber of social media. Conventional tools of governance, regulation and accountability are now thrown into question.

This article has attempted to outline some of the issues that will continue to challenge government, society and individuals. Much of the change will be highly beneficial, but it will not be without cost. The challenge, as with all technologies, is how to maximise advantage while minimising negative impacts.

However, in contrast to the growing level of public debate about biotechnologies, for instance, digital and networked technologies have not been the subject of systematic and deliberative public reflection. One need only consider that it took over a century for the downsides of a fossil fuel-based society to be understood against the background of manifest benefits. Can societies and governments be more proactive about maximising the opportunities and minimising the risks of the digital revolution?

1 This commentary emerged from an invited discussion at the OECD Science Technology and Innovation Advisory Group meeting in April 2016. The topic of that meeting was the 'digital economy and society (DES)', one of the outcomes of which is the OECD's current Going Global project. In the course of the original discussion, it became clear that the expected societal impacts and unintended consequences of digitalisation and internet-based technologies are under-analysed. This article is a slightly expanded version of my OECD commentary, and takes the New Zealand context into account. It is not meant to ignore or downplay the positive effects and innovative potential of digital technology, nor, conversely, to take an alarmist position. Rather, it seeks to highlight potential issues that are emerging from the inevitable and rapid digital revolution and which merit reflection. The digital revolution certainly creates some challenges that appear beyond obvious means of societal

regulation or control (beyond 'the market'), yet have far-reaching implications at all levels of social organisation, from the individual right through to the nation state itself. In itself this merits the development of a far deeper discourse between policymakers (both nationally and globally), scientists and innovators, public and private sectors, and civil society.

Note that this commentary is designed to prompt reflection and discussion rather than undertake rigorous research and analysis of each issue raised. Hence, issues are presented in a very general way and on the understanding that each one will engender value judgements about the opportunities and risks of digital technologies, depending on one's position; the commentary is not a definitive argument.

2 Throughout this article the term 'digital world' refers to internet-based and related technologies. These include, but are not limited to, machine learning, artificial intelligence,

remote applications, social media and crowd-sourcing, accessible big data, and now, increasingly, the 'internet of things', to name the most current. The impacts of such technologies include not only the manifest benefits of new digital technologies, but also the implications of what may be the largest and fastest shift in individual, societal and economic relationships and power structures that humankind has ever faced.

3 <http://datafutures.co.nz/>.

4 <http://www.pnas.org/content/111/24/8788.full.pdf>.

5 I thank Professor Stuart McNaughton, the departmental science advisor to the Ministry of Education, for his help with this section.

References

Advisory Board on Artificial Intelligence and Human Society (2017) *Report on Artificial Intelligence and Human Society: unofficial translation*, Cabinet Office, Japan, http://www8.cao.go.jp/cstp/tyousakai/ai/summary/aisociety_en.pdf

Executive Office of the President (2016) *Artificial Intelligence, Automation, and the Economy*, Washington, DC: US Government, <https://www.whitehouse.gov/sites/whitehouse.gov/files/images/EMBARGOED%20AI%20Economy%20Report.pdf>

Gluckman, P. (2016) *Making Decisions in the Face of Uncertainty: understanding risk*, Auckland: Office of the Prime Minister's Chief

Science Advisor, http://www.pmcasa.org.nz/wp-content/uploads/PMCSA-Risk-Series-Paper-1_final_2.pdf

Harayama, Y. (2016) 'Artificial intelligence and society: the challenges ahead', presentation to OECD Technology Foresight forum, November, <https://www.oecd.org/sti/ieconomy/Yuko%20Harayama%20-%20AI%20Foresight%20Forum%20Nov%202016.pdf>

OECD (n.d.) Going Digital: making the transformation work for growth and well-being, web page, <http://www.oecd.org/going-digital/>

OECD (n.d.) OECD digital economy papers, http://www.oecd-ilibrary.org/science-and-technology/oecd-digital-economy-papers_20716826

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