Submission in Response to Australia's Productivity Performance Discussion Paper

March 2022

Introduction and Summary

TechnologyOne is pleased to respond to the Commission's Call for Responses to its paper, Australia's Productivity Performance.

TechnologyOne submits that a confluence of international and domestic events, and a tipping in the maturation of business intelligence software systems has created a generational opportunity for a step change in productivity performance, built on enterprise level operational efficiencies.

TechnologyOne recently commissioned independent economic research to quantify the value of an accelerated digital uplift across selected industry verticals, based on the empirical evidence of real world outcomes.[1] This research is described below and available here.

The research found a potential economy-wide saving of $224 billion in NPV. The Monash Multi Regional Forecast Model was used to estimate the GDP impact of these savings and found there was a potential 1.3 percent uplift in GDP from the base in 10 years.

Importantly, the average contribution to this saving from reduced total cost of ownership of business intelligence systems was 32 percent, while 54 percent of the observed savings came from productivity gains arising from business process improvement.

TechnologyOne submits that this opportunity should be approached as a micro-economic reform. While the benefits of these technologies are sufficient that enterprises should make the investment for their own benefit, the national economic benefit of accelerating this investment is such that it justifies policy intervention to identify and remove "switching costs", perceived or otherwise.

The International Context: The Build Back Better Agenda

The most senior economist in the Reserve Bank of Australia, Luci Ellis, recently suggested the investment decisions made during the recovery from the global Pandemic, if bold and foresighted enough, could give rise to a period of prosperity similar to the "Roaring 20s" as the world recovered from WWI and the Spanish Flu pandemic.[i]

In the leading English-speaking economies, political leaders are presenting bold post-Covid political agendas. Their language has echoes of two great moments of technological, social and economic transition during the 20th century – the end of WWI and the Spanish flu pandemic, and the end of the Great Depression and WWII.[ii]

[1] https://toobigtoignore.com/

These moments were created by the confluence of external disruption and inflection points in technology. Both have come to be seen as periods that determined which nations would be the most prosperous in the succeeding decades.

> *Post WWI, the explosive industrial industrialisation built on new methods of industrial organisation in the US combined with unresolved tension in Europe changed the global balance of power forever.*
>
> *Post the Great Depression and WWII, the targeted investment in strategic industries and the rise of consumerism began a process of global industrialisation and of trade liberalisation that shaped the world of 2021.*

Leaders in the US and the UK are embracing transformative Government programs in green technologies, reinvestment in infrastructure and a renewed focus on productivity, enhanced domestic capability and citizen welfare.

In the US, a massive investment in refreshing and rebuilding physical infrastructure to lift productivity is an essential element in the policy program.[iii]

The program being prosecuted by the Administration in the US reflects the size, wealth and complexity of that nation's industrial depth and economic size and are arguably not practical for economies of the scale of Australia.

Australia's economy is neither large nor industrially diverse enough to emulate the approach in the US.

However, that does not mean we should not be looking for more targeted opportunities for intervention. For example, we submit Australia can leverage broad geographic and sectoral productivity gains through a rapid digital uplift.

It is not unreasonable to suggest that, if such a digital uplift were to occur rapidly across key Australian sectors, the impact on national welfare and productivity would be materially transformative.

Moreover, previous transformative investment by the Federal Government in creating a national broadband network means Australia is in a relatively advantaged position to leverage those disruptive technologies enabled by broadband that are now at a moment of maturity.

This technology transition offers an opportunity for a productivity uplift through the re-organisation of the model of deploying information systems from a buy/own/operate approach to a consumption model, usually described as Software-as-a-Service. There is now empirical evidence from Australia supporting a decade of international literature demonstrating how moving to a consumption model of information intelligence systems transforms productivity outcomes within organisations.

Independent economic analysis commissioned by TechnologyOne and conducted by Insight Economics and IBRS has found a transition to consumption-based software across key sectors over the next three years could realise $224 billion in savings and uplift GDP by 1.3 percent above the base in 2030 (assuming a 2022 start date).

The most telling finding in the research is that the largest single source of these savings is from increased productivity.

Reduced total cost of ownership of the digital technologies contributed 32 percent of the benefit while labor force productivity improvement accounted for 54 percent of the benefit, the study found.

The researcher found control of business intelligence systems in organisations making this transition moved from a centralised ICT team to the functional business line. Transactions moved to the "edge" of the business network, and the control over the systems also moved from an internal ICT silo to technology teams stationed inside business units. This was because the ICT skills in organisations were not required to keep system operating under a consumption model and were freed to adapt them to specific use case needs.

The data suggests the digital transition precipitates such profound change at the enterprise-level that the impact taken across the economy amounts to an industrial re-organisation. Hence, TechnologyOne submits this opportunity should be viewed by Governments as a micro-economic reform opportunity justifying policy intervention.

It is our view Government leadership will be required for this transition to occur in a timeframe that provides Australia with early mover advantages and to realise the savings identified in the IBRS/Insight Economics study.

Importantly, this information system transition supports and leverages other global mega trends, and past domestic policy decisions.

Post NBN Broadband Policy

The NBN was built because there was bipartisan recognition that a next generation broadband network was a necessary enabling technology for the 21st century.

Government intervention was justified because, without it, the rollout would be too slow, uneven and inequitable. This would have created a social and economic digital divide, causing Australia to slip behind the global digital race.

But policy makers recognised the NBN was the beginning of the story, not the end game.

The availability of high universal high speed access network is necessary to support new ways of working and organising businesses. Its utility was proven during the repeated lockdowns in 2020/21. The real success story behind the national economic resilience demonstrated were the business applications that ran over the network.

The Decarbonisation Agenda and Technology

The decommissioning of inefficient, dispersed computing power and its replacement by centralised cloud-based alternatives has been identified as a necessary part of the journey to decarbonisation of the economy for a decade.

A 2014 study found an increase of cloud computing from 25 percent to 40 percent of total computing capacity would reduce CO2 emissions by 4 Mt, about 1 percent of total CO2 emissions in 2019. [iv]

This reduction is achieved because even in 2013, data centre technology supporting cloud providers used 80 percent less energy than the small, old and inefficient data centres supporting on premise software systems. In the years since these studies, large scale data centres have only become more efficient.

Policy Recommendations

- Introduce a SaaS-First policy across Government.

The Cloud First policy adopted by governments around the world starting more than a decade ago had a powerful catalytic effect. Requiring agencies to choose cloud infrastructure as a first choice shifted deep cultural conservatism and empowered public servants to make different decisions. SaaS First is the evolution of Cloud First and would drive Government to keep pace with the changes in technology over the past 10 years.

- Security standards

Governments should communicate their own security standards and expectations to the market to encourage senior management in the private sector to develop a similar set of expectations. It is increasingly clear that modern, fit-for-purpose cyber security can only be delivered through scale solutions, such as through cloud-based technologies.

- Best-practice buying model

Governments can develop tools to properly capture the full costs and benefits of step change technology investment decision-making and make these available to the business community. It can also use its buying power to drive creative supply-side pricing models which will flow through to the private sector.

Conclusion

Australia is in an advantaged position due to the foresighted policy intervention in communications infrastructure which led to the building of the NBN. This investment lays a foundation upon which the productivity transforming new generation of business intelligence software applications can be deployed nationwide.

The more rapidly these applications are adopted, the greater the resulting economic uplift.

This moment is an opportunity for a step change, transforming Australia to a high productivity, low pollution future that can benefit all citizens.

If, however, this moment is lost, the opportunities will not be repeated in the foreseeable future.

Globally, we are in a transition moment in digital technologies that lends itself to bold policy thinking. This is a generational opportunity for a medium-sized advanced nation such as Australia to set itself on a course for a new generation of prosperity built on productivity.

Contacts

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[i] https://www.rba.gov.au/speeches/2021/sp-ag-2021-11-18.html
[ii] https://www.oecd.org/coronavirus/policy-responses/building-back-better-a-sustainable-resilient-recovery-after-covid-19-52b869f5/
[iii] https://www.washingtonpost.com/business/2021/11/07/biden-infrastructure-build-back-better-analysis/
[iv] E3, Energy Efficiency Policy Options for Australian ans New Zealand Data centres, 2014