NSW Digital+ Public Consultation
AIIA Response

August 2015
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1. Introduction

1.1 About AIIA

The Australian Information Industry Association (AIIA) is the peak national body representing Australia’s information and communications technology (ICT) industry. Since establishing 36 years ago, the AIIA has pursued activities aimed to stimulate and grow the ICT industry, to create a favourable business environment for our members and to contribute to the economic imperatives of our nation. Our goal is to “create a world class information, communications and technology industry delivering productivity, innovation and leadership for Australia”.

We represent over 400 member organisations nationally including hardware, software, telecommunications, ICT service and professional services companies. Our membership includes global brands such as Apple, Avanade, EMC, Google, HP, IBM, Intel, Lenovo, Microsoft, Deloitte, and Oracle; international companies including Telstra and Optus; national companies including Data#3, SMS Management and Technology, Hills Limited, Technology One and Oakton Limited; and a large number of ICT SME’s.

1.2 Overview

AIIA appreciates the opportunity to provide a submission to the NSW Digital+ Public Consultation. As the peak industry body representing the views and opinions of the ICT industry, AIIA has compiled the attached submission to provide input to this important strategy.

ICT serves a critical role in the functionality of Government in its ability to effectively operate and deliver services to citizens. The time has come to think ahead and foresee the next wave of development in Government service delivery, and to be proactive in preparing NSW to be a digital leader in the years and decades to come. Innovative developments such as the Internet of Things, (X) as a service procurement models, and new paradigms around citizen engagement through web-based, cloud, and mobile platforms are creating clear pathways to leverage new waves of potential for NSW to ensure it is set up for long-term success through the use of ICT.

Innovative strategies and disruptive new ideas will set the stage for a digital Government that is able to meet and exceed citizen expectations around operability, efficiency, and service delivery. Development of a culture that supports and fosters visionary ideas to shape the creation of a ‘digital first’ or ‘born digital’ government will also be an essential ingredient to up-skill and inspire the existing workforce. Additionally, the growth of an innovative culture will help in attracting the next generation of workers, and leaders of tomorrow to participate in the NSW process of digital government transformation.

This submission outlines a number of high-level strategies that the NSW Digital+ strategy could incorporate to ensure that a strong foundation is laid for a prosperous digital government in NSW for many years to come. The key areas of strategic focus AIIA recommends going forward are:

- adopting an increased strategic vision of the role of ICT in the operations and business of government;
- increased focus and investment in fostering an underlying innovative culture;
- sophisticated use and application of data and data analytics; and
- contestable procurement and investment approaches.
2. Strategic Vision

2.1 Setting NSW up for Success

AIIA would like to commend the NSW Digital+ Strategy for taking a firm step towards a fully digital government. The recognition of the important role ICT plays in government operations as well as the ability to efficiently and effectively deliver services to citizens exemplifies the proactive and forward-thinking nature of the strategy.

Adoption of ICT services across all levels of government requires strategic thinking and long-term planning to effectively create a platform for enduring success. AIIA believes that NSW must consider a long-term visionary approach in conjunction with the year on year incremental steps that are outlined in the Digital+ strategy. The decisions made today will set the course to improve the capabilities of NSW Government for years to come.

Innovation and disruption of current processes lay at the heart of this evolution. Start-ups and small business will play a large role in re-thinking the current status quo and disrupting traditional ways of doing business. Simplified and streamlined flows of information and communication will allow citizens to interact with a range of government services seamlessly through web or mobile applications.

Additionally, AIIA believes that to achieve the greatest outcome, the strategy must incorporate all government agencies and departments into a whole-of-government strategy in the effective use of ICT. An ongoing mentality of striving for truly interoperable government functionality, including interoperability across levels of government, is necessary to achieve this more ambitious outcome.

2.2 Recommendations

**Recommendation 2.2**

To position NSW as the exemplar of Digital Government it is recommended that:

- The next iteration of the NSW ICT Strategy articulate a more ambitious and visionary approach to how smart digital technology will drive the effectiveness of government operations and services into the future;
- All strategies and ICT solutions focus on streamlining arrangements to meet the end needs of the citizen, taking into account the wide range of demographics being served.
3. Fostering an Innovative Culture

3.1 Creation of innovative culture for current and future workforce

Human capital and a culture of innovation are consistently the main drivers behind transformative projects. To ensure that the full potential of the NSW Digital+ Strategy is successfully realised and improved upon in future years, there must be a strong focus on fostering an innovative culture among current government employees, as well as the future workforce.

Competing in a global economy driven by data, digital technologies and innovation requires an appropriately skilled workforce. Analysis by PwC shows that 44% (5.1 million) of Australia’s current jobs are at high risk of being affected by computerisation and technology over the next 20 years.¹

At an international level a more comprehensive view of innovation has emerged, and has led to educational interventions aimed to foster creativity and thinking skills, as well as non-disciplinary entrepreneurial capacities, in a wide number of contexts and for all students, irrespective of their field of study. The focus on Science, Technology, Engineering and Maths (STEM) education by economies around the world is precisely because these skills are imperative to developing the foundations to support innovation. Skills that promote inquiry, critical thinking and analytical skills, enable interpretation of data; the ability to learn from hands-on experimentation; identify connections between different disciplines; persistence in problem solving (even at the risk of failure); the ability to work collaboratively and strengthen research skills are the foundation skills of our future workforce.

Countries that lead in STEM such as Germany and Sweden also rank high on innovation. Germany which ranks third in the OECD in terms of STEM graduates and Sweden which has around 90% of students attending highly digitally equipped schools and supports national STEM focussed training for teachers, are both recognised for their high performance innovation capabilities.

Government roles are not immune to the changing demand for skills. Government, like the broader community simply cannot be sure that the jobs of today will necessarily still exist tomorrow. Educating workers to be more innovative and creative is equally important to public and private employers.

While greater investment in ‘inputs’ can provide shorter term growth in income, over the longer term innovation coupled with strong STEM foundations is the primary driver of sustained higher economic growth and living standards.

In terms of digital skills - this is broader than just being able to use computers and applications. They involve the ability to design, build or program computer applications to help create new and innovative products and services. This must also be a priority for public services.

3.2 Recommendations

Recommendation 3.2

To ensure the NSW Government remains an exemplar of public service delivery it is recommended that the NSW ICT Strategy:

- explicitly recognise the critical need to leverage digital technology to drive innovation within government operations and service delivery. This could include:
  - linking with innovation clusters and hubs to support initiatives aimed to re-imagine government processes and service delivery models;
  - supporting innovative projects both within and outside of government aimed to deliver innovative solutions within government;

iii. fostering a culture of innovation amongst government staff, encouraging in particular, the use of digital technology to enable the disruption of traditional business processes and service models.

b. Develop its own STEM based workforce pipeline, by

   i. Investing in internal STEM based skills development;

   ii. Adopting new approaches to identifying relevant talent such as leveraging innovation contests in secondary and tertiary institutions to attract new talent into NSW Government.
4. Leverage Data and Analytics

4.1 Open Government and Open Data

Government is expected to be a leader in harnessing new technologies to make smarter policy and public service delivery decisions, while simultaneously and continuously delivering basic and routine services.

The role of government is being transformed through the use, and delivery of services through new platforms and methods of engagement such as web and mobile applications. With the demand from citizens for greater access to mobile applications, and increasingly sophisticated and customised and personalised service options government needs to explore how it can use technology and its information by-products to improve the digital experience for citizens.

Emerging developments such as the Internet of Things and cognitive and semantic computing\(^2\) represent the next wave of technology capability that governments need to look to as digital technology disrupts traditional service models.

The future of services, including government services, will be in personalised and individualised service options rather than simply those that are generically ‘citizen-centric’. A digital experience that filters and prioritises information and services based on the circumstances, location, requirements etc of citizens should be anticipated now. Government needs to be investing in data and analytics capability to support this future.

4.2 Recommendations

**Recommendation 4.2**

*To ensure the NSW Government can be more ‘intelligent’ in identifying and responding proactively to citizens and in the spirit of adopting an ambitious ICT strategy vision it is recommended that:*

- a. **Opportunities for exploiting the capabilities of the Internet of Things, cognitive and semantic computing are incorporated into the NSW ICT Strategy, including assessment of the technological, data, skills and investment requirements.**

- b. **Opportunities for the monetisation or value-adds through data by industry and/or government are explored - with the potential of linking with innovation hubs and similar programs (see item 3.2 above).**

\(^2\) Cognitive computing is the simulation of human thought processes in a computerized model. Cognitive computing involves self-learning systems that use data mining, pattern recognition and natural language processing to mimic the way the human brain works. The goal of cognitive computing is to create automated IT systems that are capable of solving problems without requiring human assistance. The core technique utilised in Cognitive Computing is Semantic Computing - the key feature of which is that it caters for real world ambiguity of the meaning of data, by associating data with the context in which the data is meant to be used.
5. Investment and Procurement

5.1 Contestability and Strategic Investments

In conjunction with the previous recommendations regarding strategic and long-term visionary practices, AIIA believes that procurement of ICT, as well as investment in human capital is done with a holistic and flexible perspective. It is important that the long-term strategy incorporates both current technology, as well as building in the potential for new iterations of service delivery to leverage technology developments.

While ICT procurement arrangements have matured in recent years it is imperative that a transparent and contestable procurement environment is mandated by government. Contestability drives competition and delivers cost and service benefits to end users.

The AIIA Legal special interest group is in the process of creating a Best Practice Procurement Guide, developed by industry and thought leaders. We strongly encourage the NSW Government to review the Guide when it is released and consider the adoption of its recommendations to improve the procurement process for both vendors as well as end-users in government.

5.2 Recommendations

Recommendation 5.2

To ensure the NSW ICT Strategy delivers real benefits to government and to users it is recommended that:

a. There is ongoing assessment and accountability of ICT service efficacy within and between departments and agencies to ensure positive cost/benefit return for taxpayers;

b. Consumption based, or (X) as a service procurement models are adopted where appropriate to avoid costly and out-dated in-house management of ICT products and services;

c. Whole of government standardisation of procured services and reduction of bespoke contract arrangements are required to ensure interoperability and data sharing between departments and agencies;

d. Department and agency ‘health checks’ are initiated to ensure accountability and adherence to procurement guidelines and processes; and

e. Mechanisms to ensure the increased openness to suppliers in procurement process, including start-up and SMEs is incorporated into the Strategy.
6. Conclusion

6.1 Digital NSW - Exemplar of Digital Government

This next update to the Strategy provides an opportunity for the Government to stake its claim to be the leader of digital government, the exemplar of digital government - across all Australian governments, federal and state.

The success to date for example of Service NSW, the progress of procurement reforms etc., should give the NSW Government confidence in its ability to take such a position. We would strongly encourage DFSI to differentiate this update to the Strategy by adopting a more proactive, visionary and ambitious position. Notwithstanding the operational focus of the Strategy, this higher level strategic positioning provides important momentum to drive the digital transformation agenda and signals a continued proactive and energetic commitment to leveraging ICT effectively to support the broad business of government.