



# Assessing the economic benefits of digital inclusion



## Foreword

### DIGITAL INCLUSION INITIATIVE



connecting people to  
embrace opportunity

‘Social inclusion means people are engaged in community and digital lives, and that they have opportunities for training and employment. I would like to congratulate Infoxchange for its successful partnership with the Office of Housing, which has delivered real outcomes through the Digital Inclusion Initiative. The research by A.T. Kearney has demonstrated just how significant the benefits of this work have been, and provides a model for further projects in this space.’

*The Hon. Richard Wynne, MP – Minister for Housing, Victoria*

‘Civil and democratic societies demand that everyone be able to access and share information. In the twentieth century this meant being able to read and having access to print materials, radio and television. In the twenty-first century it means having access to information and communications technology; in short, it means digital inclusion.’

‘In the information age, connecting communities is an essential part of ensuring a socially inclusive society, and A.T. Kearney has developed a model that shows the economic return of this investment. This groundbreaking and significant contribution is outlined in this paper.’

*Andrew Mahar, Executive Director, Infoxchange Australia*



‘Working with Infoxchange has been a rewarding experience, as it provided A.T. Kearney with a new and meaningful way to apply our experience in solving complex problems. Our consultants who conducted the research and analysis found the work to be both personally and professionally rewarding. The benefits that we analysed prove that not only does Digital Inclusion improve the lives of disadvantaged individuals and families, it makes economic sense as well. Infoxchange deserves to be congratulated for successfully partnering with government and business to provide crucial services to those who need them; and for piloting an innovative and sustainable approach to public policy implementation.’

*Phil Harkness, Vice President and Director, A.T. Kearney*



# Introduction

Australia has become a fundamentally digital place. For most of us, life without internet access is unimaginable — much less life without access to a computer. A computer is critical for basic tasks such as writing resumes, completing school assignments or sending emails, while the internet is a portal to crucial information about current events, job opportunities, government and social services, health and wellness and myriad other topics.

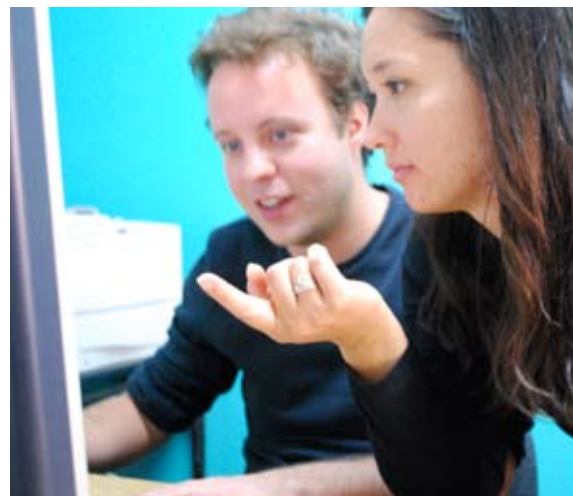
Yet these tools for living are by no means universally available. Constrained by cost or a lack of knowledge — and often both — a significant number of disadvantaged people are missing out on the basic tools that engender participation in modern life.

This 'digital divide' has a significant, negative impact on the communities it affects, by limiting their access to information, employment and social networks.

On the upside, however, bridging this divide has genuine, measurable benefits for individuals and the broader community. This paper demonstrates the scale of these benefits, and makes a strong case for expanding the process of 'digital inclusion' to other disadvantaged areas of Australia.

*'Increasingly broadband internet access to the home is seen as a vital utility in the same way that gas, water, and electricity supply are vital utilities... The provision of broadband access in social housing has been shown to be a powerful means to connect previously unengaged people'*

*Andrew Pinder, (e-Envoy), United Kingdom Cabinet Office*



# Executive summary

The Digital Inclusion Initiative (DII) is a whole-of-community effort, spearheaded by the non-profit organisation, Infoxchange, and its eleven corporate partners.

The initiative is designed to eradicate the digital divide by providing access to computer hardware, software, affordable internet and user support for residents of public housing.

Two disadvantaged communities in Victoria have already benefited from DII: Atherton Gardens Estate in Fitzroy and Collingwood Public Housing Estate. Now, using a robust economic model, management consulting firm A.T. Kearney has been able to identify and measure these benefits. The results are compelling.

## Benefits

In the five years since its launch in 2002, DII has generated \$5.9M of benefits to residents and the broader community in Atherton Gardens, in the following areas:

- » Employment and education, through additional skills and access to new jobs, created \$4.1 million in benefits
- » Enhanced communication and greater social and economic connectivity created \$1.3 million in benefits
- » Greater transactional efficiencies, by using online tools and access, created \$200,000 in benefits
- » Improvements to the health and wellbeing of residents, while difficult to estimate, were worth \$300,000

The Collingwood site, launched in August 2008, has already gained momentum and is predicted to generate \$6.8 million of benefits to residents and the broader community by 2013.

There are several critical success factors that the initiative has demonstrated: leveraging strong implementation experience, encouraging adoption of new skills, transitioning to a sustainable community enterprise model and measuring ongoing economic and social impact.

## The plan ahead

Australia is facing economic and social challenges not seen for several generations, and the need for grassroots support of the most disadvantaged communities has never been greater.

DII is a proven model that warrants further investment in order to expand its reach to all communities in Australia. The communities targeted by the Job Fund may be a natural starting point.

The future benefits from this expansion would pay back the cost of initial investment in three to four years.

*Social inclusion means people are engaged in community and digital lives; it means people like those in this estate have opportunities for training and employment.'*

*Richard Wynne, Minister for Housing VIC*

# Background and context

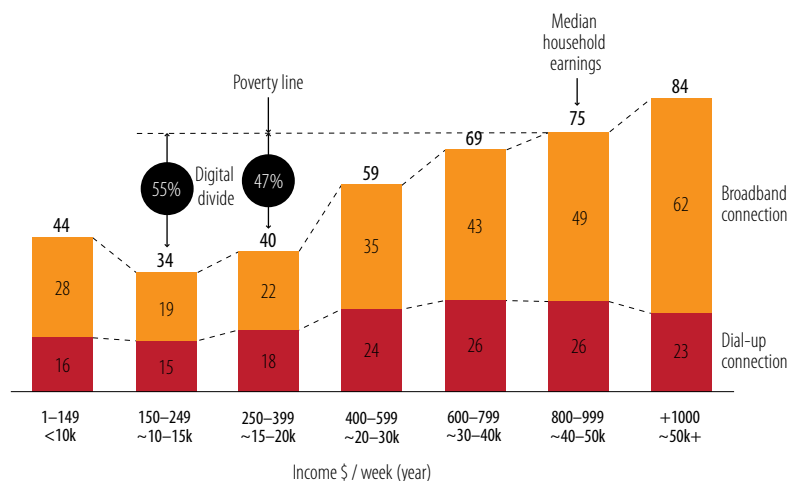
Infoxchange is a non-profit organisation which, for over twenty years, has been dedicated to making a difference in community services, including grassroots activities aimed at ensuring households who wish to access information and communication technologies (ICT) can do so irrespective of income, ability or disadvantage.

- » Australian households with high incomes have twice the internet connectivity of those with low incomes – representing a digital divide (See Figure 1); and
- » Affordable internet access for all members of society in the 21st century, is a fundamental infrastructure requirement of any civil and democratic society espousing equal opportunity, equality and a fair go.

**Figure 1** Households on average weekly earnings have twice the internet connectivity than those below the poverty line

## Evidence of the digital divide

Internet access by weekly household income (% of households within income bracket)



Source: ABS Patterns of home internet access in Australia, 2006; Poverty Lines Australia Dec 2008

The Digital Inclusion Initiative (DII) is a whole-of-community effort, spearheaded by Infoxchange and involving eleven corporate partners, designed to eradicate the digital divide by providing access to ICT for residents, including appropriate computer hardware, software and user support.

In June 2002, Atherton Gardens Estate in Fitzroy, Victoria became the first site in Australia to benefit from DII implementation.

- » Approximately 800 properties have been wired up, 1500 residents trained and over 900 computers installed.

**Since implementation, DII has raised the level of home computer access in the established site to within 10% of the national average and trebled the proportion of residents with internet access (See Figures 2 and 3).**

Figure 2 Impact on home computer access

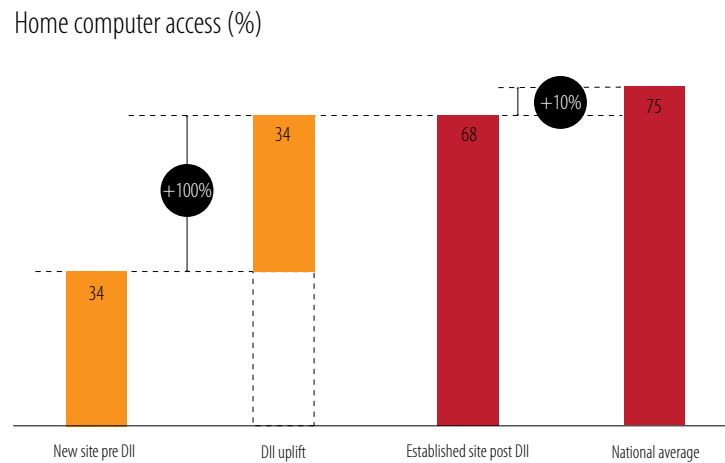
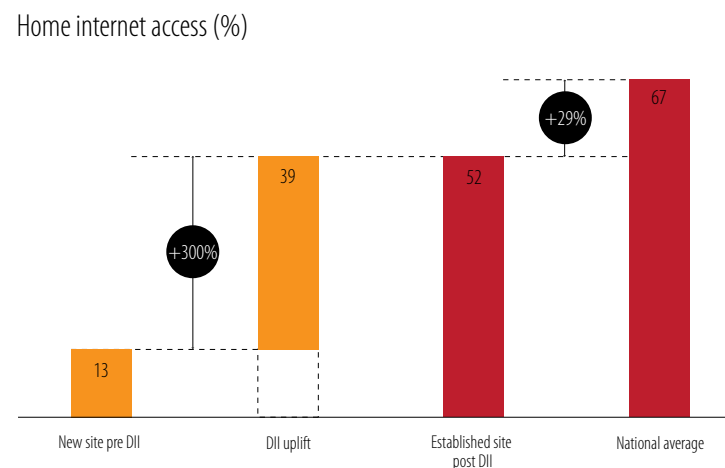


Figure 3 Impact on home internet access



Based on this success, the Collingwood Public Housing Estate in Collingwood, Victoria became the second site in August 2008.

- » To date, 880 properties have been wired up, 320 residents trained, and 270 computers installed.

The social benefits of DII – revealed in both the established Fitzroy site and the new Collingwood site – are substantial, including the following:

- » Greater feeling of empowerment and equity of access to new technologies;
- » Increased computer literacy enabling greater interaction between residents;
- » Enhanced service and work practices to support government and community services working together ; and
- » Independent access to ICT by school age children for their research, assignments and homework.

Estimating the economic benefits of DII requires careful analysis of the tangible, measurable financial impact to residents and society.

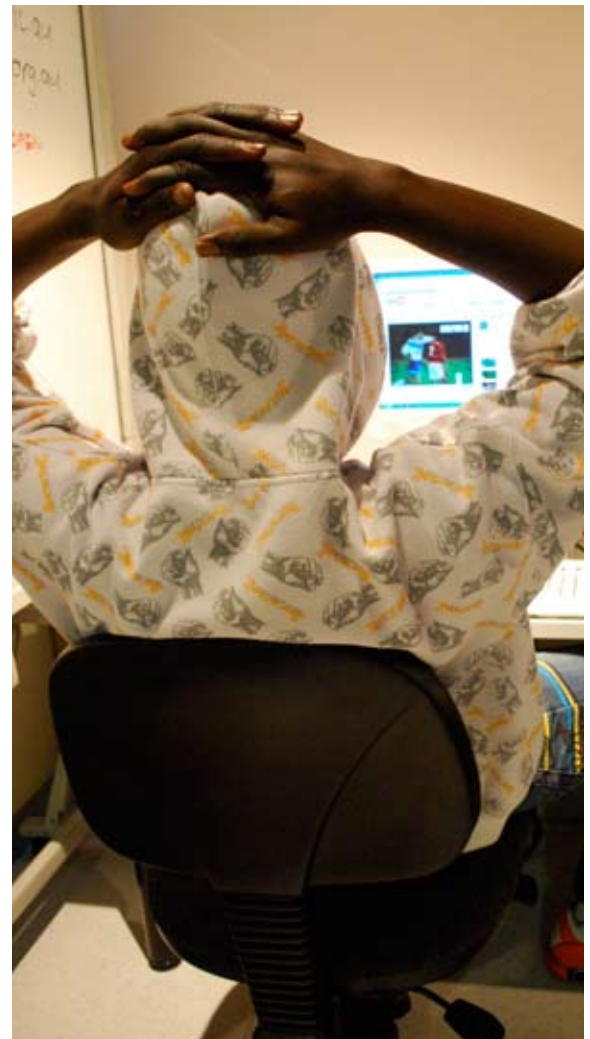
An understanding of these economic benefits is critical to securing additional funding for a nation-wide roll out of additional DII sites.

A.T. Kearney was asked to create a robust and fact-based model to analyse the economic benefits of existing DII sites and lay the foundation for ongoing analysis and measurement of future benefits.

This document summarises the results of that analysis and how these benefits flow to the residents and broader community.

*‘Having genuinely affordable internet access for all, especially the socially and economically disadvantaged in the 21st century, is a fundamental infrastructure requirement of any civil and democratic society espousing equal opportunity, equality and a fair go.’*

*Andrew Mahar, Executive Director, Infoxchange Australia*



# A.T. Kearney's approach

The approach by A.T. Kearney used extensive primary and secondary research.

Primary research was aimed at understanding DII's direct impact.

- » The team interviewed and surveyed over 100 residents.
- » An online survey was created to capture responses from residents of both the established site (Fitzroy) and the newly launched site (Collingwood).
- » To gain insight into the effects of the DII on employment in particular, a paper-based survey of residents from the established site was distributed in 3 languages.
- » To understand the starting point, resident registration data of the newly launched site was analysed.
- » Survey responses were supported through face-to-face interviews with residents to capture more detailed descriptions of impact.

Secondary research was leveraged to support and validate primary research findings.

- » Approximately 90 documents were gathered over the 4 months of the study, including reports and analysis conducted by governments, agencies and academics in North America, Europe and the United Kingdom. While the importance of addressing the digital divide is being widely studied, little effort has been made to quantify benefits. Research makes a strong connection between improving digital access and wellbeing.
- » Global experts in the field of economics and public policy from A.T. Kearney were also engaged to complement the analysis.

Insights and analysis were compiled in an economic model which draws upon approximately 20 different data sources used as inputs. The model is able to dynamically calculate expected benefits by stakeholder (residents, government, and business community). The sophistication of the modeling allows an estimate of payback periods and accommodates analysis of a variety of site profiles.

*Working with Infoxchange has been a rewarding experience, as it provided A.T. Kearney with a new and meaningful way to apply our experience in solving complex problems. The results prove that not only does Digital Inclusion improve the lives of individuals, it makes good economic sense too.*

*Phil Harkness, Vice President and Director, AT Kearney*

# Summary of benefits

DII has generated \$5.9M of benefits to residents and the broader community (see Figure 4).

There are four main sources of economic benefits, as follows:

## 1. Education and employment (\$4.1 million)

- » Improved education
- » Addition of valuable language and IT skills
- » Access to online resources to search for jobs

## 2. Communication and connectivity (\$1.3 million)

- » Discounted internet access
- » Cheaper alternatives to traditional telephone communications
- » Connectivity with the community

## 3. Transactional efficiencies (\$0.2 million)

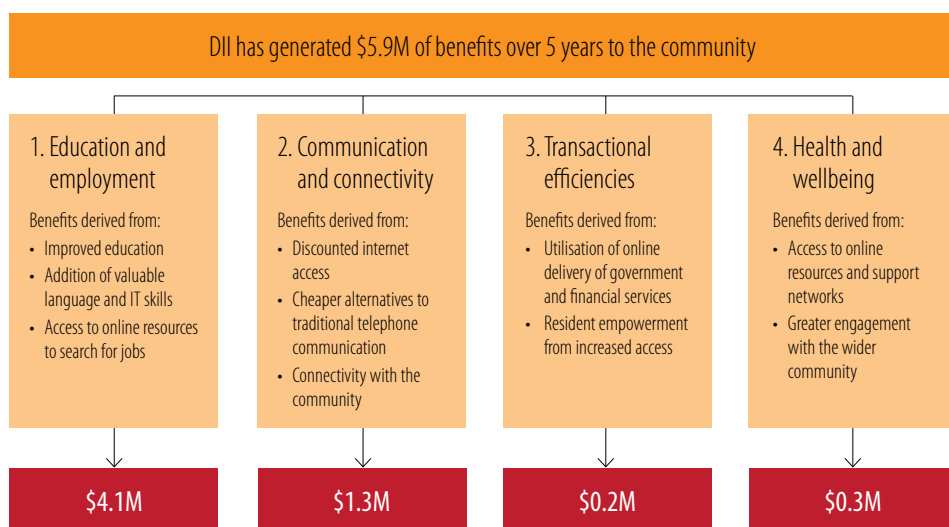
- » Utilisation of online delivery of government and financial services
- » Resident empowerment from increased access

## 4. Health and wellbeing (\$0.3 million)

- » Access to online resources and support networks
- » Greater engagement with the wider community

Figure 4

## DII benefit summary



Source: A.T. Kearney benefits model (Atherton Gardens)

# Economic benefits

## 1. Education and employment

**Employment and education benefits are driven by improved education, general upskilling, and better job searching.**

*'Having a computer at home is very important. Tools like Microsoft Word – I need this to type my resume, and my children need it for school'*

*DII Participant*

Improved education results from residents being directly involved in the computer training with home access to PC and internet, which the DII initiative provides. The combination of the skills, tools, and access enhance the learning experience by providing a digitally supported home education. As overseas research indicates, education outcomes are a strong predictor of future earnings. Survey responses show frequent computer use improves results while extensive secondary research shows the IT-education effect is strongest in disadvantaged communities.

Access to computers, and frequent computer use provides exposure to the English language, as well as translations to native languages. Improvements in reading and comprehension abilities are key outcomes from existing research on computer/internet usage. Survey responses demonstrate a significant difference between the language skills in the established site as opposed to the new site.

Residents undergo training on how to use the internet and useful tools such as online job searching facilities. The program also provides a job notice board on their community intranet to advertise local positions. Home access to these facilities ensures that residents can use their time efficiently to proactively seek employment. Online advertising is the method of choice for most employers. In the established site it is the search method most commonly used, and the most effective.

The combination of these factors impacts the community by reducing unemployment among those without jobs and increasing wages for those residents with jobs.

Through DII, unemployed residents are able to improve education, basic ICT skills and language proficiency such that they gain greater confidence and connection with the broader community. Surveyed respondents stated they were able to find employment more easily due to direct access to a computer at home.

Comparing the employment and labour force participation rates in both the established site and the new site revealed a five point improvement in the proportion of residents employed full time, and a nineteen point improvement in part time employment.

Through DII, employed residents also gain valuable skills that allow them to consider alternative employment options. Surveyed respondents stated the networking and more efficient job search capabilities provided by enhanced connectivity helped them improve their wages.

Analysis revealed a weighted average increase in wages by \$111 per month. International evidence confirms a 3–10% wage premium for those who upgrade ICT skills.

## 2. Communication and connectivity

**Infoxchange acts as an Internet Service Provider (ISP) for residents, offering discounted internet access at a price of \$15 per month as opposed to an average price of approximately \$50 from mainstream providers.**

*'Now I have the internet at home, I contact relatives and friends overseas twice a week.'  
'I call overseas a lot. With the internet, it's much cheaper. I save \$30 a week'*

*DII Participant*

This \$35 per month saving is a significant contribution to the household budget of residents. At the peak of adoption in the established site, 75% of households were using discounted internet access as opposed to commercial suppliers.

Likewise, the use of internet connectivity lowers the cost of telephony. Almost 50% of respondents reported saving money on phone calls due to the internet. Savings are realised through use of non-traditional substitutes such as email, VoIP, or instant messaging. The average reported saving was \$29 on local calls and \$28 on international calls, resulting in a total monthly saving of \$57.

### **Non-quantifiable benefits: connectedness**

Many residents interviewed emphasised the importance of this benefit which was difficult to quantify in dollar terms.

Overseas research concludes that connection via the internet enhances integration with the rest of the community, provides access to support networks and informs residents of current events.

## 3. Transactional efficiencies

**Direct access to services such as banking and government agencies saves time and money for both residents and the service providers.**

*'It saves me time and money, because I no longer need to buy newspapers and magazines'*

*DII Participant*

Residents who adopt internet functionality such as online banking can shift manual receipt of benefits to digital. Digital payments avoid time spent by residents at Centrelink offices and the bank. Survey respondents from the established site indicate a high adoption of electronic payment which saves time and enhances the quality of service interactions.

Disadvantaged people in public housing have, by their nature, a high level of interaction with government bodies, and many interactions, such as reporting income to Centrelink, can be completed online. The government has a portal ([www.australia.gov.au](http://www.australia.gov.au)) that provides residents with access to useful government services. Increasing the amount of "straight through" form completion has a number of benefits: speed, accuracy, traceability, less human intervention and lower costs.

Through DII, residents gain a sense of empowerment through being able to find information online themselves. Increasingly, organisations in the private and public sectors are encouraging use of direct electronic channels by reducing access to service employees. More efficient access to information allows residents to re-direct time and energy towards more productive activities such as job search and community involvement.

#### **Non-quantifiable benefits: empowerment**

Interacting and transacting with government or large corporations through the internet provides an enhanced sense of empowerment to residents who previously may have felt left behind and excluded. Quantifying the benefit of enhanced empowerment and confidence is almost impossible, though comments from residents themselves emphasised this gain.

Access to current information and the ability to conduct transactions online provides residents a sense of empowerment. This access will only grow in importance in the future as organisations move more services online.

## 4. Health and wellbeing

**The costs of health problems and anti-social behaviour are significant in Australian society. However, research shows that boosting social inclusion through enhanced digital connectivity is an effective way to improve outcomes in these areas.**

*"I read about health problems, like diabetes. Because of my age, it's important to know."*

*DII Participant*

**Drug and alcohol abuse:** The costs of alcohol, tobacco and illicit drug use are over \$30.5 billion per year. The resulting costs are attributed to worker productivity, healthcare, crime, etc.

**Obesity:** In 2008, 3.71 million Australians (17.5%) were estimated to be obese. The resulting costs are allocated to the health system, worker productivity, cost of carers, etc.

**Heart disease:** Heart disease is Australia's leading cause of death accounting for +16% of reported deaths. Treatment is costly, and annual expenditure is increased by research and pharmaceuticals.

**Domestic violence:** Domestic violence is an alarming social issue, because of its significant impact on families, employers, tiers of government, and the general community.

**Juvenile delinquency:** Anecdotal evidence suggests that juvenile delinquency is rife in disadvantage communities. Costs of juvenile delinquency are both direct results of crime and indirect costs of administration, etc.

Not all costs can be attributed to social exclusion. However, a small positive influence has a big financial impact.

In the UK, studies have found that providing health information online allows users to 'make informed, health self-help choices' ensuring treatment is sought where needed, avoiding treatment where unnecessary and finding preventative information to reduce future health incidents. This efficient access to information reduces costs to the public health system and empowers patients when making health choices.

Studies of disadvantaged communities in Australia have established an interrelationship between social exclusion, education, income and health outcomes. On a national level, health has been shown to be correlated with a number of issues known to be impacted by DII including: parental education levels, child health, social exclusion and community health.

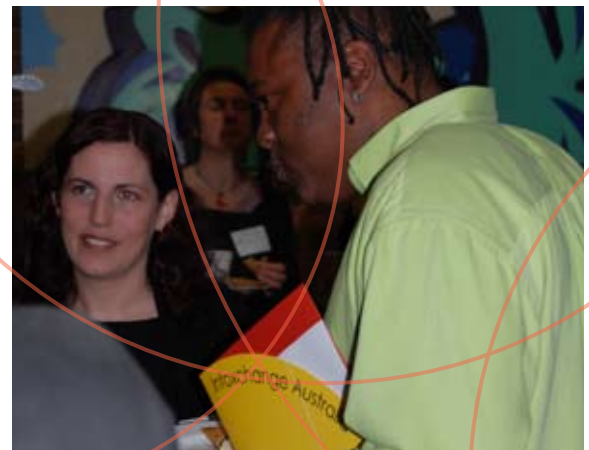
Research links internet access and a positive impact on teenagers. Access supports greater social connectedness, enhances educational and creative endeavours, and fosters constructive community involvement. DII can assist by increasing community involvement and education, which are seen as major contributing factors in preventing 'at-risk' teenagers engaging in patterns of delinquent behaviour.

## The bottom line

**Providing access to the tools and information that most Australians enjoy is fundamental to creating a fair and equitable society. Yet beyond the question of fairness, there is a clear economic imperative for doing so.**

A.T. Kearney's model demonstrates a significant return on investment, with the project returning \$5.9 million in benefits. This means the project paid for itself within three years, while the benefits to residents will continue long afterwards. Whether it is a child whose school performance improved, a parent who started a career with their new-found skills, or an older person becoming proactive about managing their health; access to information and IT has a significant positive impact for many people in many ways.

If Australia is to be a truly civil and democratic society providing all citizens with equal opportunity to education, training, employment and equal access to communication tools then the immediate action is to roll out this successful program to other disadvantaged communities, and secure the requisite funding to do so.



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## Acknowledgements

Infoxchange and A.T. Kearney would like to thank all the participants of the DII for their feedback and input.



Infoxchange Australia is a leading not-for-profit enterprise

## Vision

Our vision is 'technology for social justice'. Infoxchange Australia works towards a society where all those who wish to use new technologies have access to them. We believe that informed people make change.

## Mission

To create social equality and opportunity by empowering people through access to information communication technology and enabling the exchange of information and ideas.

## Values

We value empowerment, integrity, innovation and excellence.

## Infoxchange Australia

- » Works to bring the benefits of information communication technology to all, to address society's 'digital divide'
- » Utilises information communication technology to empower individuals and strengthen communities
- » Encourages cooperative partnerships and information sharing within and across government, community and private sectors

## More information

To find out more about Infoxchange Australia, contact us on (03) 9418 7400 or email [info@infoxchange.net.au](mailto:info@infoxchange.net.au), or visit [www.infoxchange.net.au](http://www.infoxchange.net.au)



A.T. Kearney is a global team of insightful, collaborative experts that deliver creative, meaningful and, above all, sustainable results for clients.

Our consultants help organisations gain and sustain competitive advantage and achieve profound, tangible results. Whether the focus is on strategy or operations, on organisational change or strategic business technology, our people are committed to helping clients improve their products and services, their business relationships, and their bottom line economics.

A.T. Kearney's approach combines a broad knowledge of business issues with a deep understanding of specific industries. Consultants are known for their highly collaborative, team-oriented approach to working with clients and with each other and are passionate about doing what's right – for clients, their organisation and the larger community we share.

## More information

For more information on A.T. Kearney or its DII research methodology and results, please email [Australia.inquiry@atkearney.com](mailto:Australia.inquiry@atkearney.com)

## Media enquiries

For media enquiries, please contact the media consultant to A.T. Kearney Australia: Belinda Thomson, Buchan Consulting, on +61 2 9237 2800 or [bthomson@bcg.com.au](mailto:bthomson@bcg.com.au).