

# *Digital dollars* How internet advertising is fuelling the Australian economy & society

*Interactive Advertising  
Bureau*

*March 2013*



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# *Executive Summary*

Online advertising is an important part of the complex and highly dynamic economic ecosystem that enables the creation and delivery of a huge range of content and services to millions of people across Australia every day.

This report aims to promote a deeper understanding of the role of advertising in funding the internet, and by extension, fuelling the Australian economy and enriching our lives.

Online advertising is tightly intertwined with and supports many other important industry sectors such as ecommerce websites, software and hardware businesses, web design and hosting, web and mobile applications and the free ad-supported content and services utilised by Australians.

The ad-supported internet ecosystem in Australia plays a significant role in the economy. It provides substantial employment and contributes to growing the nation's wealth. Individual consumers, producers and the community at large derive significant benefits from the ecosystem.

**Australia's ad-supported internet ecosystem generates significant economic activity, contributing \$17.1 billion directly to economic output (GDP) and providing over 162,000 jobs.** Its GDP contribution is forecast to reach \$26.5 billion by 2017, with an average annual growth rate of 7.5 per cent, outpacing other sectors of the economy.

Online advertising is the primary funding model that supports many things Australians use the internet for on a daily basis - at no cost (free) or low cost. **Access to these online services and content generates additional welfare benefits worth approximately \$70 billion on top of its contribution to economic output and jobs.**

- Consumer value—\$43 billion in benefits from decreased transaction costs, ability to find products that better match preferences and availability of new products and services.
- Producer value—\$27 billion in benefits from decreased production and research and development (R&D) costs, ability to find new markets and improved information flows.
- Community value—substantial qualitative benefits from the strengthening of communities and access to information (difficult to quantify).

Small and medium enterprises (SMEs) are strong and increasing users of the ad-supported ecosystem, using it to improve the efficiency and effectiveness of communication with consumers, driving down input costs and growing revenue. A recent survey by Sensis found 82 per cent of SMEs use the internet to research information and to look for suppliers, 71 per cent use it to order and 73 per cent use it to pay for products and services. Industry sectors where internet will have a transformative impact are predicted to grow the most in terms of contribution to GDP.

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# ***Introduction***

The internet is a vital part of the lives of more than 70 per cent of Australians.<sup>1</sup> On average 15 hours at home and 7 hours at work are spent each week using the internet.<sup>2</sup> The popularity of the internet has resulted in producers of online and offline goods and services investing more than \$3 billion per year in online advertising to communicate with this audience.<sup>3</sup>

The Interactive Advertising Bureau (IAB) commissioned PwC to provide an impartial and comprehensive review of the ad-supported internet economy, in particular its size, composition and the economic and social benefits Australians derive from it. This report aims to promote a deeper understanding of the role of advertising in funding the internet, and by extension, fuelling the Australian economy and society.

The first section of this report examines the Australian economic activity that is reliant in some way on online advertising. Three categories of economic activity were examined, being those firms that would not exist without online advertising (core industries), firms who are strongly reliant on advertising for their income (partial), and interdependent industries which benefit from the ad-supported internet without directly generating income online.

The second section of the report examines the impact of the ad-supported internet on the society more generally. It looks at benefits being derived by consumers, producers and the community as a whole. The impact on small to medium enterprises (SMEs) is also investigated with particular emphasis on those sectors of the economy that are considered to be significantly disrupted by the internet.

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<sup>1</sup> PwC Internet Attitudes Survey 2012

<sup>2</sup> ARC Centre of Excellence for Creative Industries and Innovation, CCI Digital Futures 2012, The Internet in Australia

<sup>3</sup> IAB Australia, (total advertising revenue for the year to September 2012)

# 1 Economic contribution of the ad-supported ecosystem

*Online advertising is an essential enabler of growth for Australia's digital economy.*

In 2011/12 online advertising in Australia supported economic activity which contributed \$17.1 billion to Australia's GDP and 162,000 digital economy jobs. It is forecast to grow to support economic activity contributing \$26.5 billion to Australia's GDP by 2017, based on a compound annual growth rate (CAGR) of 7.5 per cent.

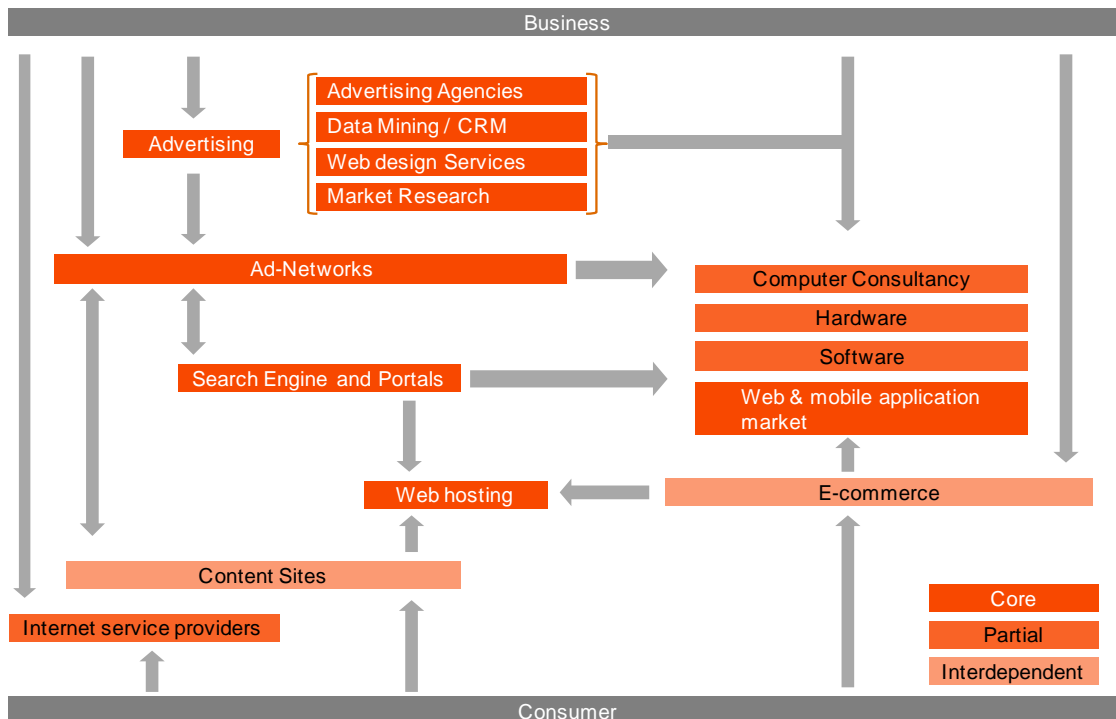
*Online advertising is part of a complex economic ecosystem*

In Australia online advertising is produced by a complex and highly dynamic industry. That industry is tightly intertwined with other industry sectors that depend on and co-exist with Australia's internet infrastructure. For the purposes of this report 12 industry sectors were included in the definition of the Australian internet ecosystem.<sup>4</sup> These industry sectors and their various interrelationships are summarised in Figure 1.

*Online advertising is a critical funding component for the internet ecosystem for Australian consumers and producers*

The funding models for organisations participating in the Australian internet ecosystem are diverse and many organisations have multiple sources of funding. Consumers pay directly for internet access and for some of the content they access. Some e-commerce sites are sustained by earning commission on the goods and services they sell to consumers.

**Figure 1 - Australian internet economy sectors**



Source: PwC

<sup>4</sup> These industries were selected to include within the ecosystem in order to be consistent with those used for the similar study conducted by John Deighton, Harold M. Brierley and Leora D. Kornfeld of the Harvard Business School on behalf of the US IAB.

Other content sites do not charge consumers for the services they provide and are financed through selling advertisements. The lines between the internet economy and the bricks and mortar economy are also increasingly blurring.<sup>5</sup> Figure 2 classifies the range of industry sectors and organisations according to their key funding sources.

The use of ad-supported products and services on the internet is a key factor in the rationale for many people to be connected to the internet. Therefore, other organisations which are less reliant on advertising directly, but still rely on the internet for their income, are also dependent on the ad-supported internet.

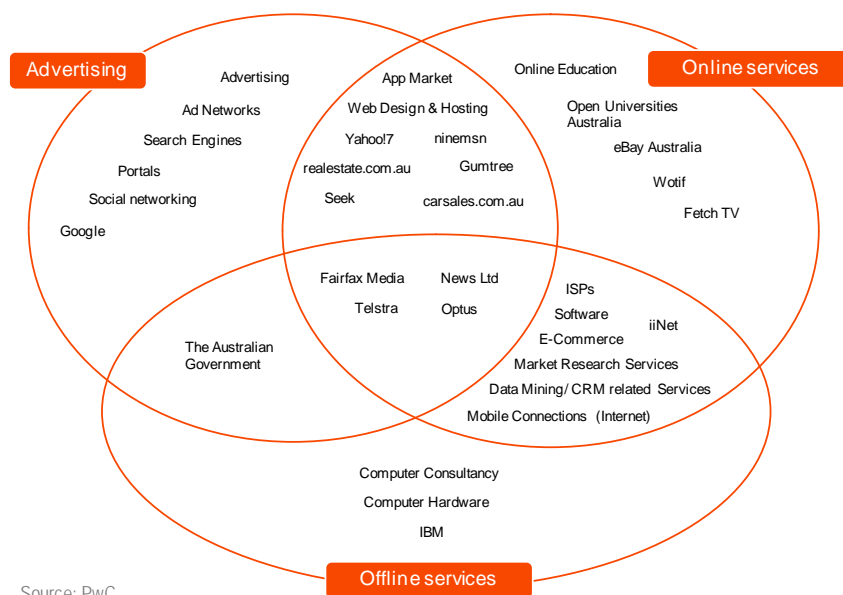
The ad-supported internet ecosystem is a significant and growing component of the Australian economy. As Figure 2 indicates, advertising is an essential funding component for many organisations that participate in Australia’s internet ecosystem.

For many sectors, operating revenues are either completely or partially derived from online advertising. Without online advertising it is unclear whether many of the products and services produced would be available or used by consumers.

Using a conservative, bottom-up, methodology, it is estimated that there are 162,000 employees working in the ad-supported internet ecosystem which directly contributes \$17.1 billion to the Australian economy (2011/12).<sup>6</sup> Using job multipliers developed for the US IAB study, this suggests a direct and indirect impact of over 400,000 jobs.<sup>7</sup>

Overall the ad-supported internet ecosystem is estimated to be growing at a CAGR of 7.5 per cent, suggesting it will contribute \$26.5 billion to the economy by 2017.

**Figure 2 - Funding models for the internet economy**



Source: PwC

*“Free content is essential to us all. I research price comparisons and products regularly to obtain the best deal. I love eBay and check the site daily. Email accounts should always be free, there should never be a cost involved to access this important daily feature. The most important free services to me are: - my bank, eBay, Centrelink, government sites and comparison sites. Companies rely on advertising to offer free content to everyday people such as me. Let's face it, advertising these days makes the world go round” (PwC survey respondent)*

<sup>5</sup> For example, 33 per cent of Australian eBay sellers have offline shops generating 11 per cent of their revenue (see eBay’s March 2012 Online Business Index).

<sup>6</sup> The method used to calculate the impact of the internet is the income based approach for calculating GDP. Details of the methods used are in Appendix A. The direct economic contribution is the value added by various segments of the internet ecosystem to the national economy and primarily consists of wages, profit and taxes for the particular industry.

<sup>7</sup> This relies on the assumption that the structures of the US and Australian internet ecosystems are relatively similar. A multiplier of 1.54 was adopted in that study to capture indirect job creation as a result of the internet. See Harvard Business School (on behalf of IAB US) 2012, Economic Value of the Advertising-Supported Internet Ecosystem.

Borrowing from the classification scheme used by the World Intellectual Property Organization (WIPO) for copyright supported industries, the Australian internet ecosystem can be segmented to give a more complete picture of the role of online advertising within the economy (Figure 3). Sectors within the ecosystem are classified into core, partial or interdependent industries to illustrate their level of reliance on online advertising. In 2011/12 it is estimated that core sectors contributed 25 per cent of the total jobs and 20 per cent of the value added in the ad-supported internet ecosystem.<sup>8</sup>

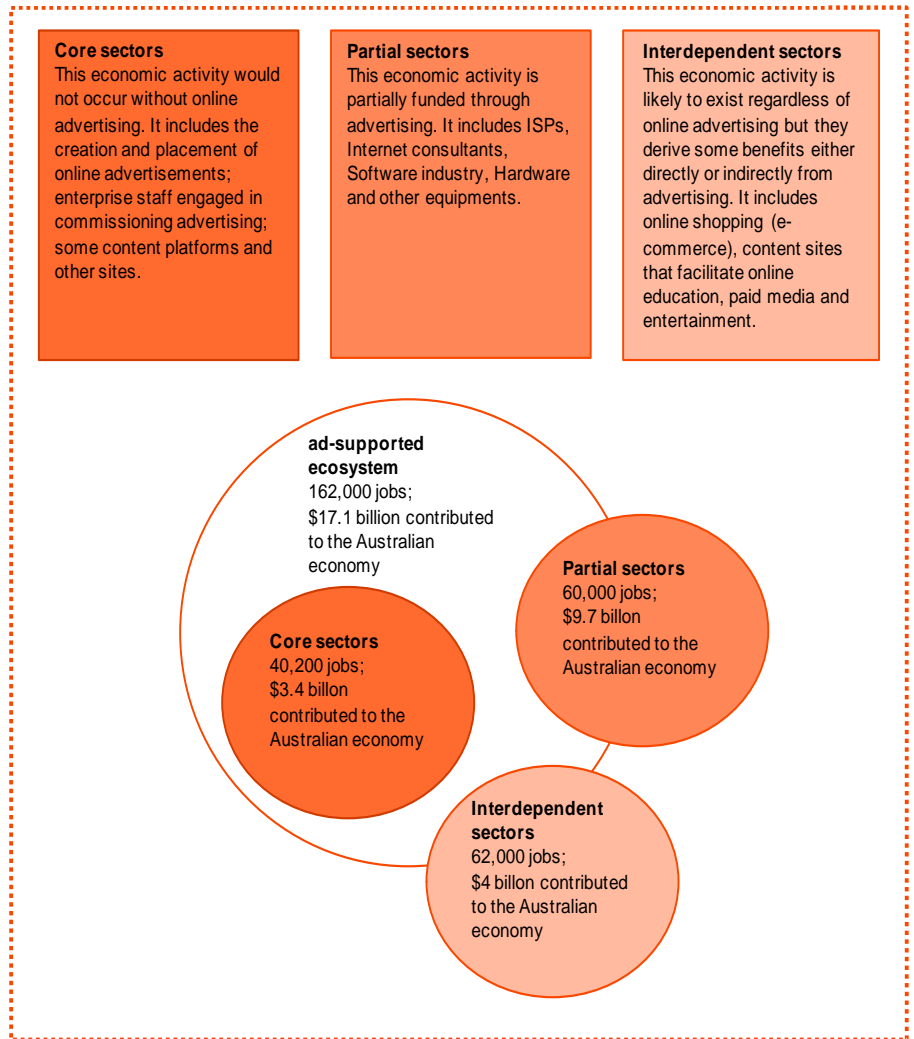
## 1.1 Core industries

*\$3.4 billion contributed to GDP, 9.5 per cent CAGR to 2017*

The core ad-supported ecosystem industry sectors have created 40,500 jobs and added \$3.4 billion to Australian GDP in 2011/12. The sectors are forecast to grow with a CAGR of around 9.5 per cent to 2017.

The sectors included in the definition of the core are those most heavily reliant on advertising to fund their operations. This includes organisations engaged in the creation and placement of advertising; and organisations that provide a platform for ads through various online consumer/enterprise service offerings. Figure 4 provides an overview of the sectors included in the core and their contribution to the Australian economy.

**Figure 3 – Conceptual framework describing the ad-supported ecosystem**



Businesses in Australia increasingly understand and acknowledge the potential benefits from using the internet channel and online advertising. The online advertisements; enterprise staff engaged in commissioning that advertising; content sites which rely predominantly on

greater use of online and interactive marketing campaigns

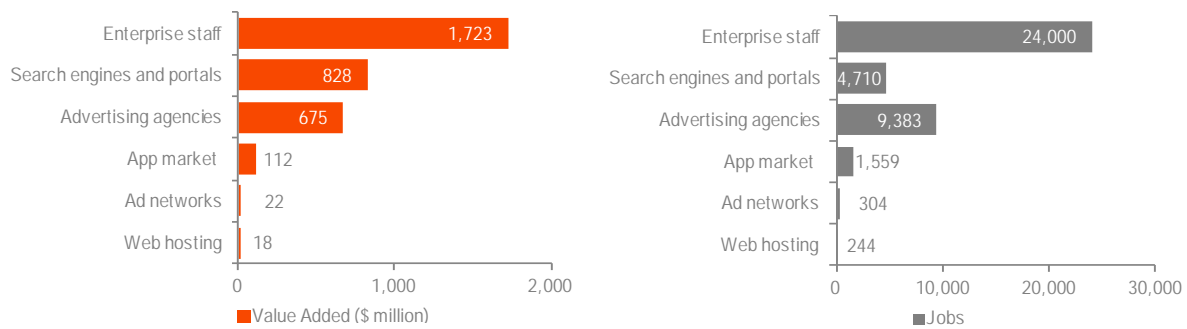
led to a six-fold increase in online advertising revenues between 2006 and 2009. In 2012, online advertising was estimated to attract 14 per cent of total advertising revenues and is forecast to grow to 33 per cent of total advertising expenditure by 2016.<sup>9</sup>

<sup>8</sup> The difference in percentage share for jobs and value added is due to the different salary and profit margins across segments.

<sup>9</sup> PwC Entertainment & Media Outlook 2012-2016



**Figure 4- Economic contribution of core ad-supported internet industries, 2011/12**

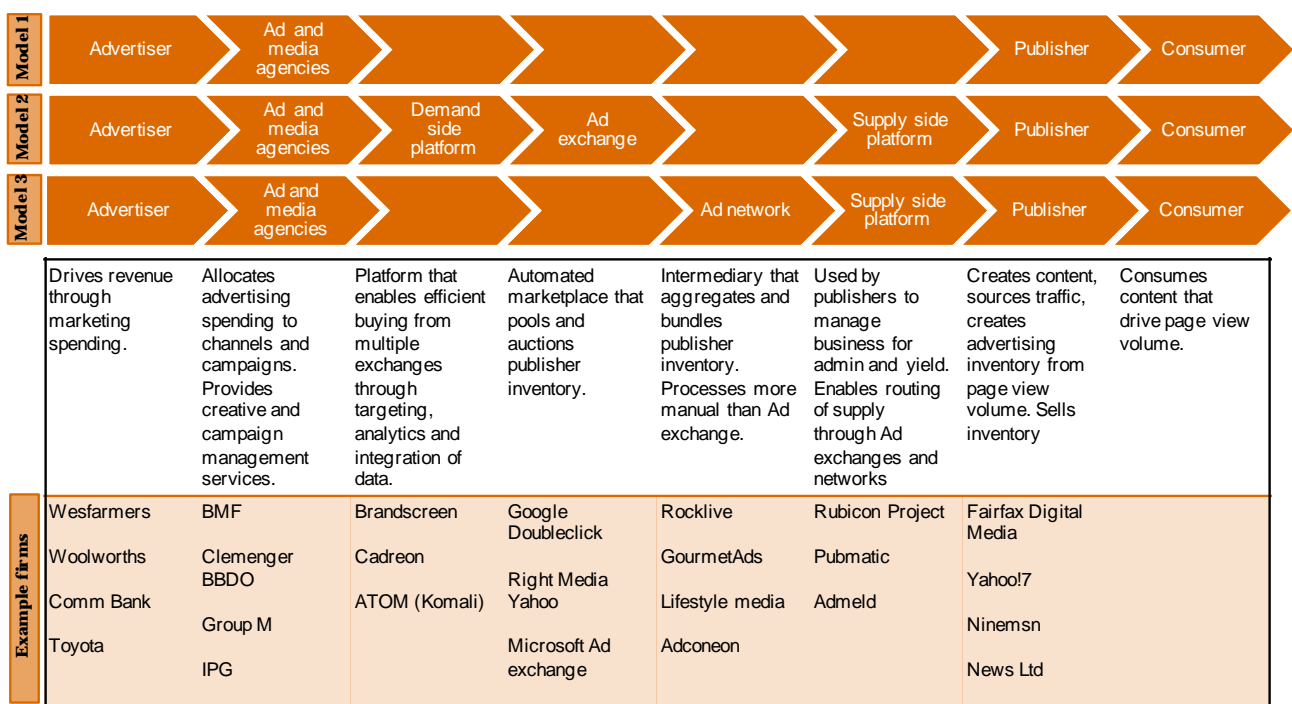


Source: PwC

The online advertising ‘product’ involves a range of supply chains. Figure 5 illustrates several models of the online advertising chain, demonstrating the creation of new industries such as ad exchanges, ad networks and supply side platforms.

For ‘premium’ advertising there may be a direct relationship between the advertiser and the publisher or platform with the audience. However, for a significant portion of the online advertising provided in Australia there are a number of other firms in the supply chain.

**Figure 5 - Advertising supply chain models**



Source: PwC adapted from Credit Suisse

A business that decides to engage in an online advertising campaign may directly or indirectly require the services of:

- advertising agency – who provide creative services to support businesses with their online advertising campaigns. Full service agencies offer online services and there are a range of specialist digital and Customer Relationship Management (CRM) advertising agencies
- advertising media planning and buying agencies
- online ad networks - who aggregate supply of advertising space and match it to businesses (specialists within this category existing for mobile, video, search and social)
- listening platforms and social media dashboards (public relations firms also provide these services) to assist firms with managing brands and campaigns

- marketing survey companies– who engage in online advertising research activities to determine the most effective online ad strategy
- web designers, writers and computer programmers – who design and create websites for a campaign
- data measurement and analytics firms – who analyse the consumer response.

The industry is highly dynamic. Innovation and specialisation continues to occur to increase the relevance of advertising to consumers and the efficiency and effectiveness with which producers and consumers communicate. The industries which make up the advertising supply chain are estimated to have contributed \$740 million to Australian GDP in 2011/12 and are growing at a CAGR of 12 per cent.

### ***The increasing popularity of online video advertising***

*The online strategy of any company involves choosing the content, method and channels for promotions. Advertising agencies help produce the content for general display, videos, write-ups etc. Improved internet infrastructure and data transfer speed have allowed companies to use video advertisements. According to the IAB Australia report on online advertising, video advertising expenditure reached \$76.6 million for the year to September 2012, which represents year-on-year growth of 30 per cent.*

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<sup>10</sup> CreditSuisse, 2012, Web 2.012, Wang, S. and Prissman, D., page 7

The growing importance of online advertising has also encouraged businesses to consolidate their web activities through corporate websites, affiliate marketing and the use of social media platforms (which are largely ad-supported). Within businesses in Australia, it is estimated that more than 24,000 jobs have been created to manage the online presence of businesses.<sup>11</sup>

The final category of economic activity considered to be a 'core' part of the ad-supported ecosystem are the internet content companies that sell advertising space as their key source of revenue. This includes portals, search engines, social media platforms and other publishers of content where the consumer is not charged (e.g. Google, ninemsn or Yahoo!7).

These industries are estimated to have created 4,700 jobs within the Australian economy with overall growth in next 5 years estimated to reach 5.9 per cent. To date, growth for the segment in Australia has been driven by high internet penetration, technology adaptation by consumers and businesses and real GDP growth.

### ***Growth in blogs and YouTube***

*Websites such as Wordpress, Tumblr and YouTube allow freelancers to create and publish their own content and generate revenues from advertising if their content is widely accessed. The numbers of sites are growing rapidly and are expected to grow at a CAGR of 10 per cent for the next five years. For example, there are a range of Australians generating income from the advertising being delivered to consumers on their YouTube channel through the YouTube partners program. Some prominent Australian YouTubers include:*

- 1. Natalie Tran***
- 2. Beached Az***
- 3. Con and Niki Mitropoulos***



*Everyday I access free content online whether it's logging into Facebook, Hotmail, eBay, just to name a few of the most important ones I use. Having unlimited access to search engines like Google and Bing also helps me source whatever information I may need at any time." (PwC survey respondent)*

*"The 'free' information available on the Internet is a fantastic resource, saving time and money and opening a whole new world to some people." (PwC survey respondent)*

*"As I am on a Disability [pension] I appreciate free services provided on the Internet, such as news, weather, transport, google, maps, and the like. For me they are my lifeline. When you don't get out much the Internet becomes very important part of your life, not just entertainment., although that also cannot be understated... So for as long as these services are able to provide these at no cost I will use them. If at any point I am forced to pay, then I will probably have to reconsider my options. (PwC survey respondent)*

<sup>11</sup> See Appendix A for estimation methodology.

## 1.2 Partial industries

*\$9.7 billion contributed to GDP, 6.6 per cent CAGR*

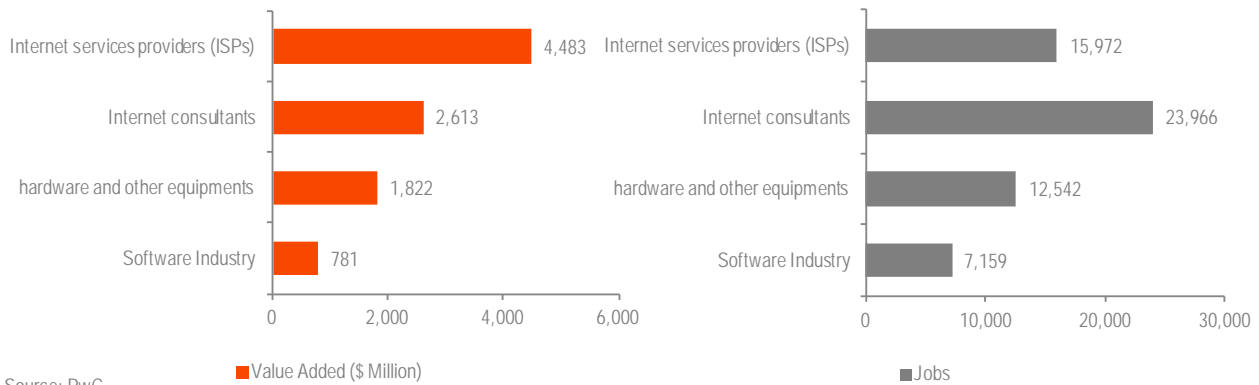
Partial ad-supported ecosystem industries refer to those industries and the economic activity in Australia for which a portion of the activities is related to the core ad-supported ecosystem. To illustrate the reliance of the partial industry sectors on the core, consider internet service providers (ISPs). If ad-supported content requiring significant bandwidth did not exist (e.g. catch up television, online video), ISPs would likely have reduced revenues as there would not be as strong demand for large/fast bandwidth internet access packages. While these industries would continue to exist without online advertising, they are likely to be considerably smaller in size.

The industries considered to be partially reliant on online advertising generally exist to:

- facilitate access to the internet by customers (e.g. ISPs)
- provide software to consumers (e.g. antivirus, etc)
- provide hardware to consumers (e.g. internet connected devices such as tablets, smart phones, laptops, etc)
- provide specialist advice services regarding the use of the internet (e.g. internet consultants, social media consultants).

Partial ad-supported ecosystem industries contribute an estimated 57 per cent to the total internet ecosystem and are expected to grow at a CAGR of 6.6 per cent. Figure 6 highlights those sectors which are considered partial ad-supported ecosystem industries and their estimated contribution to the Australian economy as measured by gross value added and employment.

**Figure 6 – Economic contribution of partial ad-supported industries, 2011/12<sup>12</sup>**



Source: PwC

<sup>12</sup> For this study, segregating the value generated by software and hardware between offline and online use was not feasible. For the report a model was created to calculate the total hardware and software contribution which is attributable to the internet.

ISPs are estimated to have contributed almost \$4.5 billion to the Australian economy in 2011/12. Growth over the last five years has been relatively slow in the sector (CAGR of around 2 per cent) and is forecast to increase to around 11 per cent.<sup>13</sup> This is largely due to mobile internet where connections are estimated to reach 5.5 million in 2015/16 from 3.8 million connections in 2011/12.<sup>14</sup>

Many of the major global hardware providers have established operations in Australia. Hardware consultancy is also a significant contributor. Hardware and other equipment providers are estimated to contribute \$1.8 billion to the Australian economy.

Australian software businesses and global software businesses with a presence in Australia also benefit partially from, and rely partially on, the ad-supported ecosystem by providing products which facilitate access to the ad-supported ecosystem (such as operating systems, email and antivirus software). The software sector in Australia is estimated to have contributed \$781 million to the Australian economy.

Internet consultants are also likely to have benefited partially from the ad-supported ecosystem as businesses who acknowledge the benefits of advertising online engage them for advice on online advertising strategies and online strategies more broadly. Although this industry is not completely reliant on the ad-supported ecosystem, online advertising remains an important driver of demand for internet consultant services. It provides a viable option in a consultant's suite of strategies for monetising web activities. This industry is estimated to support nearly 24,000 Australian jobs and contributes over \$2.6 billion to the Australian economy.

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<sup>13</sup> IBISWorld 2012, Internet Service Providers in Australia

<sup>14</sup> IBISWorld 2012, Telecommunications Services in Australia

### 1.3 Interdependent industries

*\$4 billion contributed to GDP, 8.8 per cent CAGR over the next five years*

Interdependent ad-supported ecosystem industries exist alongside the ad-supported ecosystem and derive some benefits either directly or indirectly from online advertising. For example, paid online content that is largely sustained through subscriptions may never have been discovered by potential consumers without search websites, which are sustained by online advertising. The same can be said for online retail websites that may not generate revenues directly from advertising on their own websites, but may rely on other ad-supported websites, such as search websites or social media, to be discovered.

These industries are distinct from both core and partial ad-supported ecosystem industries as they are likely to exist regardless of the presence of online advertising.

Some prominent examples of industries or activities that are considered as interdependent ad-supported ecosystem industries include:

- e-commerce (including online retail, travel and financial services)
- content sites that facilitate online education and entertainment (that generate all revenue from paying consumers).

Overall, it is estimated that these non-dedicated ad-supported industries/activities contributed \$4 billion to the Australian economy and directly created employment for 62,000 Australians. Importantly, this segment is also expected to grow at 8.8 per cent for next five years.

The growing popularity of online shopping is well documented and acknowledged. Australian consumers are increasingly adopting online shopping as a result of increased confidence in online transactions, growth in real disposable income and increased penetration of internet and mobile (this is discussed further in the following chapter).

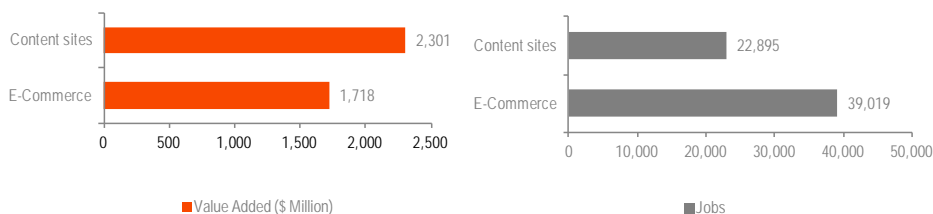
As evidence, online retailing and the goods auctioning market grew by 9 per cent to \$10 billion in 2010/11 and is expected to grow by 7.2 per cent over the next five years.<sup>15</sup> The industry is also estimated to employ nearly 40,000 Australians, which includes an estimated 1,950 jobs dedicated to online travel services and online financial services.<sup>16</sup>

The Australian travel industry has significant online operations. wotif.com, based in Brisbane, is Australia’s largest digital agency. Foreign owned online agencies such as Orbitz, Expedia and Agoda all have Australian offices and employees. Digital intermediaries connect agencies and providers.

In Australia Siteminder, Travelclick and Levart all have a significant presence in this emerging market. Traditional travel agencies and major hotel chains also have dedicated employees managing the online space.

Content sites facilitating online education and entertainment, for example ‘ABC Reading Eggs’ or ‘JB Hi-Fi Now’, are using the internet as a platform to reach more consumers. In general, these sites generate revenues by subscriptions or charging consumers for services, thus they do not form the core ad-supported ecosystem. However, like online retailers, while these content sites may not be reliant on online advertising to generate revenue, they benefit indirectly from being discovered through ad-supported search w. In some cases they may generate a small proportion of their revenue from online advertising.

**Figure 7 – Economic contribution of interdependent ad-supported internet industries, 2011/12<sup>15 16</sup>**



Source: PwC

<sup>15</sup> IBISWorld 2012, Online Shopping in Australia

<sup>16</sup> IBISWorld 2012 data, PwC analysis

*Existing economic accounting approaches are not able to capture the overall contribution of the internet ecosystem to the economy*

This economic accounting of the industry sectors provides useful data to build an understanding of the various Australian firms and employees in the continued growth of the ad-supported ecosystem. It also provides estimates that broadly align with the quantum of contribution measured in other studies of the Australian internet economy. However, it is likely that this and other commonly used approaches all significantly underreport the economic contribution of the internet to the Australian economy.<sup>17</sup>

As one of the key information communication technologies (ICTs), the internet has a role in almost every industry in Australia and its continued use and

development is forecast to continue to drive productivity gains throughout the economy.

Firm level research conducted by the Productivity Commission in 2003/4 found that ICT uptake by firms had led to cost reductions through being able to perform tasks quicker and more accurately, by reducing downtime of staff and machines, lowering production turnaround time, and improving monitoring of activities. In the financial, property and business services sectors in particular, firm performance had also benefited from the availability of a range of innovative new services made possible by the introduction of ICTs.<sup>18</sup> This suggests that the ad-supported ecosystem has a more integral role in the economy that is suggested by simply aggregating the number of jobs and contribution to GDP of the 12 sectors examined.

A 2012 industry sector study commissioned by IBM provides additional perspective. This study forecast that over the next 40 years the use of broadband internet will create 'significant' or 'transformational' benefits to 10 of the 19 industry divisions within the Australian economy (as classified by the Australian Bureau of Statistics (ABS)).<sup>19</sup> If we switched off the internet, or decreased its ability to develop and function efficiently, there is likely to be a more significant shock to the economy than the aggregate statistics in existing studies suggest.

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<sup>17</sup> For example, Deloitte 2012 used an expenditure based approach to estimate the internet contributed \$50 billion in 2010, equivalent to 3.6 per cent of Australia's GDP, and predicted a growth of 7 per cent over the next few years to reach \$70 billion by 2016. In 2009 Access Economics estimated smart technology adoption (including the internet) would increase the net present value of Australia's GDP by \$35-\$80 billion over the first 10 years of its deployment.

<sup>18</sup> Productivity Commission 2004, ICT Use and Productivity: A Synthesis from Studies of Australian Firms, Commission Research Paper, Canberra

<sup>19</sup> IBISWorld 2012, A Snapshot of Australia's Digital Future to 2050

## 2 Benefits to Australian society

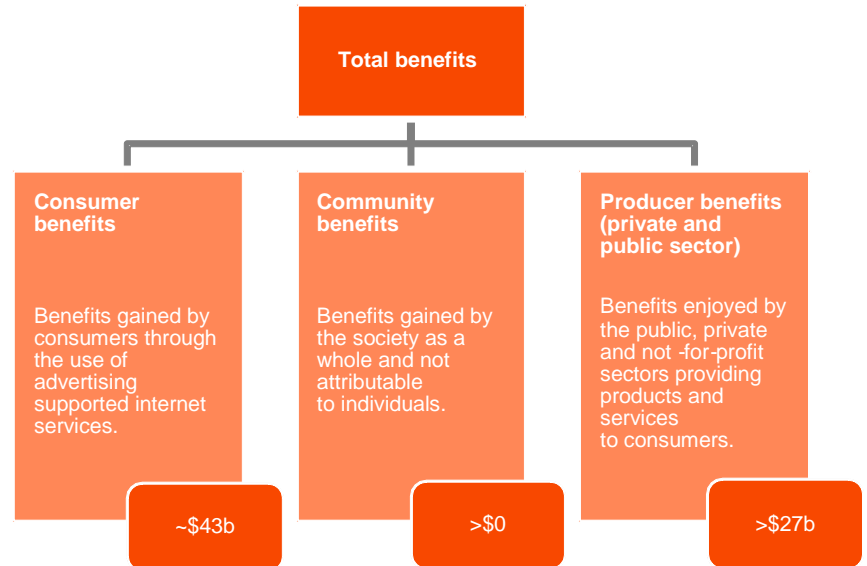
*Online advertising is generating significant value for Australians*

This section outlines the results of an investigation of the benefits of that economic activity to the Australian economy. This is done using a 'social welfare' framework which looks at the costs and benefits of the ad-supported internet to Australian consumers, producers and the community as a whole.<sup>20</sup>

This report specifically looks only at the benefits that are either being, or are expected to be, generated by the ad-supported ecosystem. As with any significant technology change there are also costs that will be incurred as a result of the ad-supported internet and these should be also be taken into account when considering the overall impact.

This preliminary framework represents an attempt to draw together the wider range of benefits that have been attributed to the ad-supported internet. Benefits are categorised into consumer benefits, community benefits, and producer benefits.

**Figure 8 – Overview of the incremental social welfare benefits generated by the ad-supported ecosystem**



Source: PwC

The framework attempts to present a more complete picture of the benefits of the emerging digital economy. As the evidence pool grows we expect to modify and improve on this approach to further articulate the benefits.

Using this framework we estimate that the ad-supported ecosystem is generating over \$70 billion of value to consumers, producers and the broader community. For further detail on the methodology used see Appendix A.

<sup>20</sup> Note that this is not an attempt to construct a complete cost-benefit analysis for the ad-supported internet. See section A2 regarding the methodology used. It is acknowledged that there are also social welfare costs associated with the internet which are not considered as part of this research.



## 2.1 Consumers

~ \$43 billion in total value generated for consumers

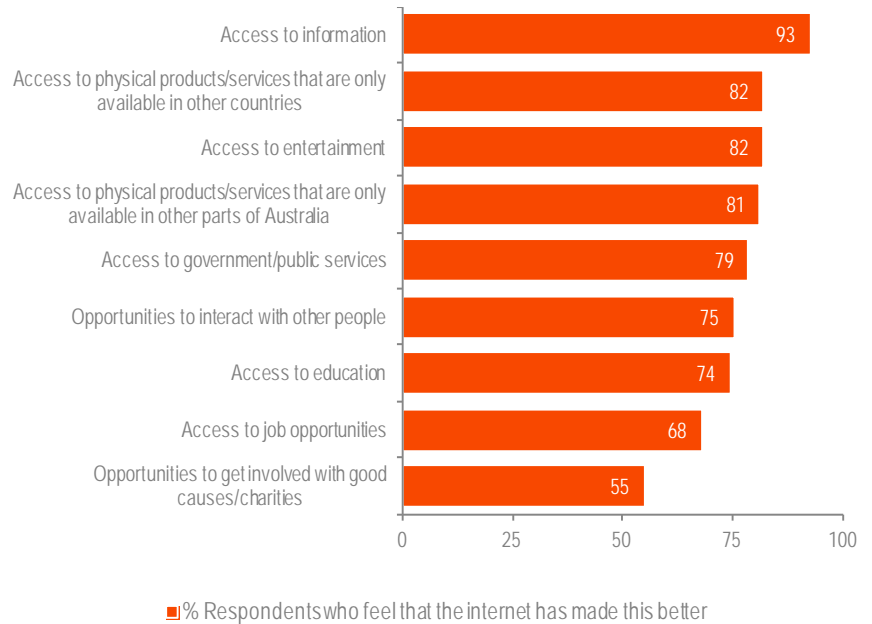
The way consumers use the internet is evolving rapidly. According to the 2012 PwC Internet Attitudes Survey, 70 per cent of Australians feel that the internet has become a vital part of their life. This figure rises to 78 per cent amongst people under 30.<sup>21</sup> From a consumer standpoint, the internet has positively impacted various aspects of daily life and offers a range of benefits as a result of its ad-supported nature.

Social welfare economics values these benefits through estimating a change in consumer surplus - the total value of the benefits derived by consumers less the cost required to obtain these benefits - resulting from the change in behaviour or activity. That is, benefits are measured as a marginal improvement over the status quo.

This section describes the consumer benefits that result from the ad-supported internet including:

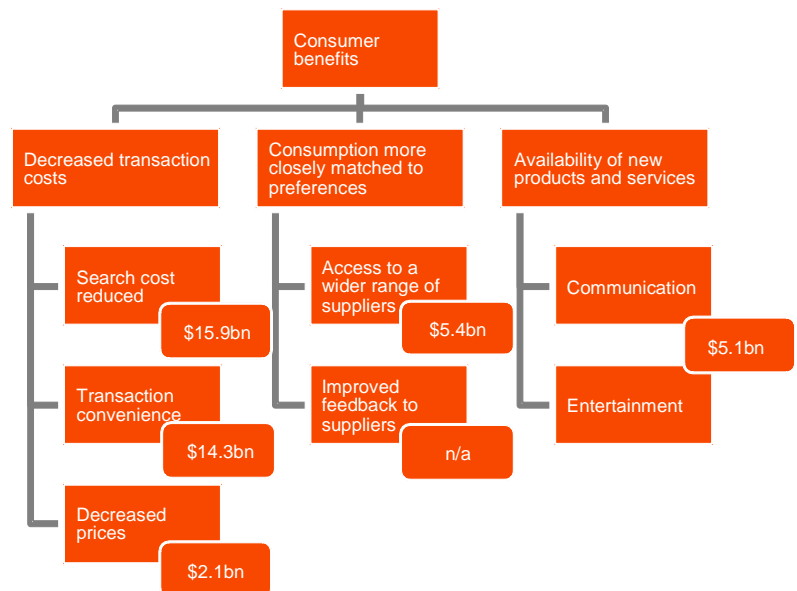
- reduced transaction costs
- more closely matching consumption to needs and wants
- the availability of new products and services.

Figure 9 – Impact of internet on various aspects of life (survey)



Source: 2012 PwC Internet Attitude Survey

Figure 10 – Consumer benefits framework



Source: PwC

<sup>21</sup> PwC Internet Attitudes Survey 2012

## 2.1.1 Decreased transaction costs

*\$32.3 billion in consumer value generated*

Through internet connected desktop and mobile devices, consumers use search, directories, comparison sites, community forums and a range of other ad-supported services to understand their options with regard to products and services they wish to consume and the prices/costs involved. Consumers benefit from reduced search costs, greater transaction convenience and decreased prices regardless of whether they're making online or offline transactions.

### *Search costs reduced*

*The ad-supported ecosystem allows consumers to search for goods and services with relative ease and in a less resource intensive manner.*

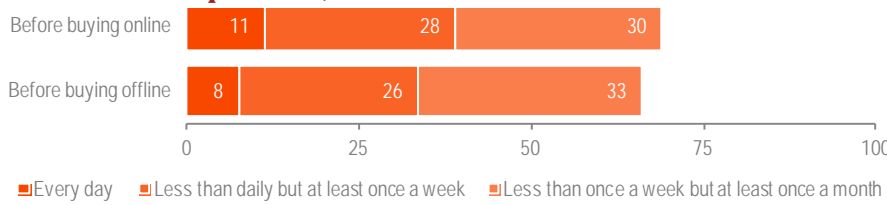
The internet has reduced time and effort spent searching for and comparing many of the products and services we consume. The advent of online search engines, the majority of which are ad-supported, means consumers save time and effort locating a product without having to travel from store to store.

Consumers are taking up the benefits associated with decreased search costs. According to our survey results, over two-thirds of respondents acknowledged using a search engine at least once a month to search and compare products prior to making a purchase. The level of research on the internet before purchase is similar regardless of whether the purchase is completed online or offline.

The benefits and value consumers derive from being able to search for products online is clear to all yet difficult to estimate. A previous study by Lateral Economics (2012) combined estimates of the time spent using search engines and average wages, resulting in a figure of \$12.6 billion.<sup>22</sup> In a similar study, Deloitte (2012) estimated the value of the ability to search for information on the internet to be \$500 per person per year or \$7 billion nationally. This estimate was based on the average Australian wage and research which estimated consumer gains from searching on the internet to be 3.75 minutes per day.<sup>23</sup>

Using the latter methodology and updated parameter estimates from the PwC 2012 survey, this study estimates the benefits from reduced search costs to be worth over \$15.9 billion to Australian consumers. This estimate represents the benefits resulting from the time reduced on the search task for all consumption across the private, not-for-profit and public sectors.

**Figure 11 – Consumers using the internet for information (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

*"I buy all sorts of things on the Internet, cat worm and flea treatment, alcohol, cds/dvds, books, house items, garden items, and everything is carefully researched and compared before I choose a site to part my hard earned cash with. The internet has made shopping not only more convenient, but more fun!" (PwC survey respondent)*

### **Benefits are enjoyed across all sectors of the economy**

*These benefits are enjoyed across almost the entire basket of consumption including:*

- *Public sector goods and services (e.g. health, education)*
- *Not-for-profit sector goods and services (e.g. charitable giving)*
- *Private sector goods and services (e.g. retail, entertainment).*

<sup>22</sup> Lateral Economics, 2012, Expecting the Future – Internet intermediary activities and the case for flexible copyright exceptions and extended safe harbor provisions, page 19

<sup>23</sup> Deloitte, 2011, The Connected Continent – How the internet is transforming the Australian Economy

**Transaction convenience**  
*The ad-supported internet makes routine transactions more convenient meaning consumers save time*

Consumers also save time with everyday transactions as a result of the internet. Routine activities, such as banking, paying bills, and grocery shopping, can all be done more conveniently online with fewer resources required, such as a car, and in less time.

In more recent years, the growth of the mobile internet has also provided consumers with the ability to increase the utility of their time use through multi-tasking (e.g. paying bills or corresponding while riding the bus, comparing prices in-store on mobile devices).

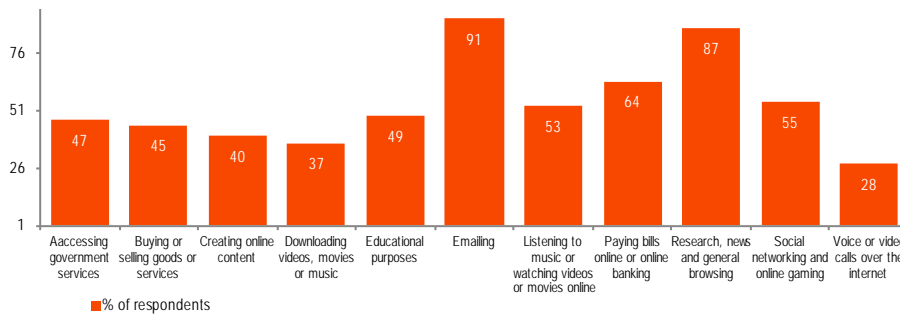
Research commissioned by ACMA in 2011 found that 77 per cent of online Australians had used two or more media at one time. Sixty per cent of online Australians watch television and use the internet simultaneously making it the most popular form of media multitasking.

Sixty-five per cent of those multitasking with the internet and at least one other media reported that the internet had their primary focus of attention.<sup>24</sup>

According to an ABS survey, an estimated 64 per cent of respondents indicated that they used the internet to pay bills and conduct online banking, which highlights the existence of consumer benefits in the form of transaction convenience (Figure 12).<sup>25</sup>

The PwC survey results also support this finding with three quarters of respondents indicating that they use the internet to manage their day to day finances.

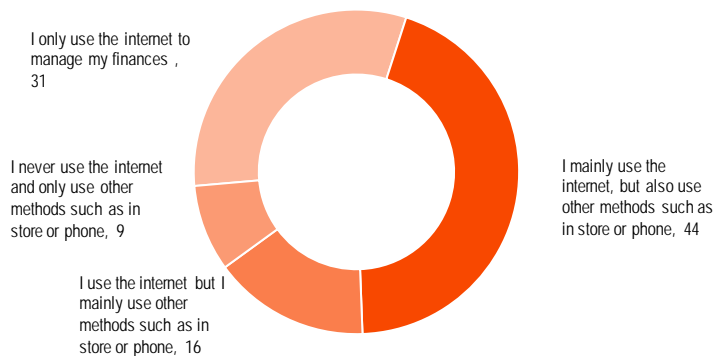
**Figure 12 – Activities performed over the internet at home 2010-11 (ABS)**



Source: ABS

To date, there have been limited attempts to estimate the benefit gained from this transaction convenience. Previous estimates have used an assumption of 30 minutes gained per week and an average wage of \$22 per hour to arrive at an estimate of \$8 billion in social welfare gains resulting from this convenience.<sup>26</sup> The same methodology can be applied in the 2012 setting.

**Figure 13 – Managing day to day finances (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

The PwC survey results suggest consumers save an average of 47 minutes per week on routine tasks as a result of the internet. Combined with an average after tax wage of \$25, we estimate that Australian consumers save \$1,019 per year. At a national level this suggests a gain in welfare resulting from the ad-supported ecosystem of approximately \$14.3 billion.

<sup>24</sup> ACMA 2011, Digital Australians – Expectations about media content in a converging media environment

<sup>25</sup> ABS, Household Use of Information Technology, 2010-11, Datacube 4

<sup>26</sup> Deloitte, 2011, The Connected Continent – How the internet is transforming the Australian Economy

### Decreased prices

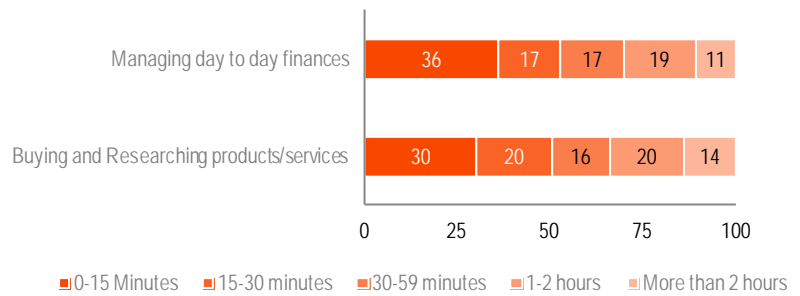
*The ad-supported ecosystem increases competition between suppliers resulting in decreased prices for consumers and decreased costs for suppliers*

The ability to search for and compare products and prices with a wider range of suppliers using the ad-supported ecosystem has resulted in decreased prices for many categories of goods and services. Again, these consumer benefits have largely resulted from the ad-supported online search engines and price comparison sites that allow consumers to compare a wider range of suppliers with relative ease and from the convenience of their home, creating greater competition in both the online and offline retail space.

According to our survey, saving money is the most important reason people use the internet for shopping. Over 90 per cent of respondents acknowledged saving money as being an important reason for shopping online (Figure 15).

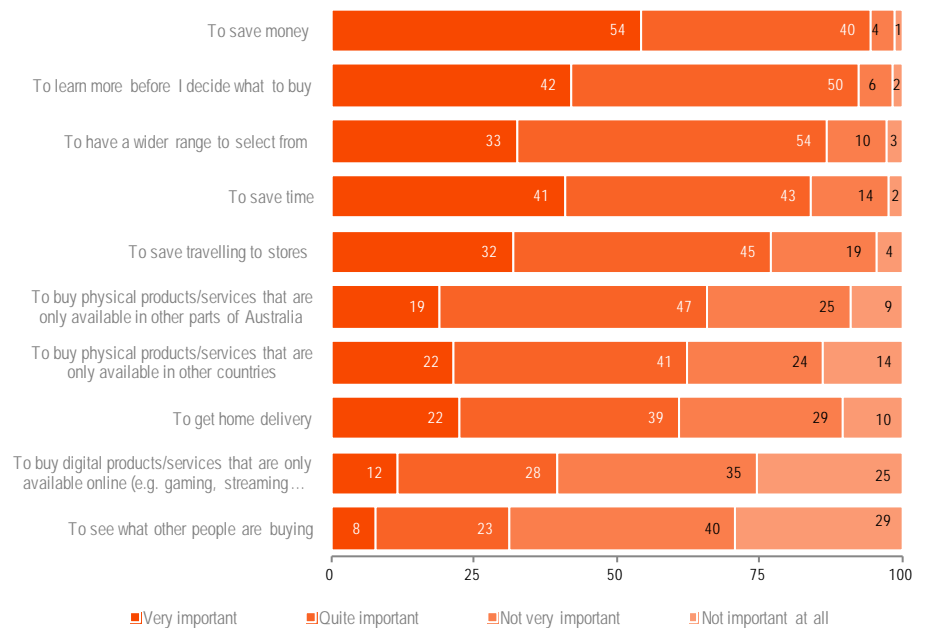
Our survey also identified brand websites, comparison sites and customer review websites as the three most popular sources of information that consumers check before making a purchase. Nearly half of respondents also indicated using these three online sources for research prior to making an offline purchase. Only 1 in 10 respondents have not used any of the listed internet sources of information to help select products or services.

**Figure 14 – Time saved each week on online transactions (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

**Figure 15– Benefits Consumers seek while using the Internet (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

The finding that lower prices are the most important reason for shopping online aligns with previous findings. In July 2012 PwC/Frost & Sullivan research into the Australian online retail market found that ‘by far the main consumer reason for shopping through international sites is to obtain lower prices than available locally, followed by access to greater variety of goods’.<sup>27</sup> The report and accompanying survey also found:

- 55 per cent indicated lower prices are the reason for shopping online (up from 50 per cent in 2011)
- 59 per cent of online shoppers who purchased from offshore retailers indicated that lower prices were the main reason (up from 53 per cent in 2011)

The Productivity Commission conducted an inquiry into the retail industry in 2011 and compared prices of products and services in bricks and mortar stores, online Australian stores and international online stores.<sup>28</sup> The report established that international online retailers offer the lowest prices to consumers, followed by Australian online retailers.

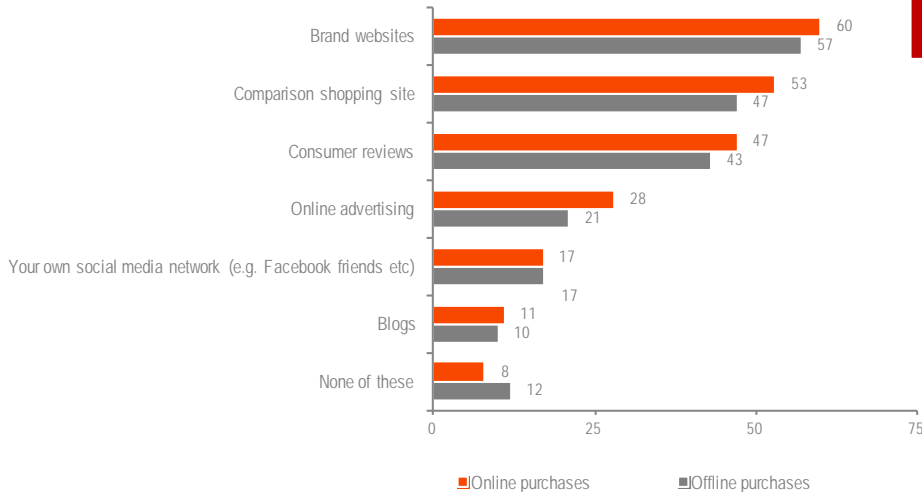
Estimating the welfare gain resulting from lower prices across the entire basket of consumption is challenging due to the lack of data. Other attempts to estimate the benefit have referred to two international studies; one which found that books were priced

6 per cent lower in online stores as compared to a bricks and mortar store; and a second which found that online stores could offer 20 per cent lower prices as compared to brick & mortar stores.

Using the Productivity Commission’s estimate of the price differential, and aggregating the benefit using the methodology of previous attempts, the consumer welfare for Australians calculated using these findings is between \$850 million and \$3.4 billion. We have adopted the average of this range (\$2.1 billion) in estimating the total welfare benefit.

*“I feel like, as a consumer I have a lot more influence and buying power by having access to competitors at my fingertips. Online shopping makes me feel empowered!” (PwC survey respondent)*

**Figure 16– Research before purchasing (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

<sup>27</sup> PwC, Frost & Sullivan 2012, The rapid growth of online shopping is driving structural changes in the retail model

<sup>28</sup> Productivity Commission 2011, Economic Structure and Performance of the Australian Retail Industry, Report no. 56, Canberra

## **2.1.2 Consumption more closely matched to preferences**

*~\$5.4 billion in consumer value generated*

The ad-supported ecosystem also allows consumers to more closely match their consumption with their preferences. This is largely the result of consumers having access to a wider range of suppliers and greater ability to provide feedback regarding the product or service. Ultimately, this results in a welfare gain where prices paid are unchanged, but the preference for (and therefore willingness to pay for) a good or service increases.

*“The internet is important because I can't find a lot of movies, music, books and sometimes clothing I like in stores anyway. Even if I can get them to order something in that means I have to go back which could take a while if I catch a bus.”  
(PwC survey respondent)*

## **Access to a wider range of suppliers**

*The ad-supported ecosystem allows consumers to access a wider range of suppliers which increases the consumer's probability of finding the right product*

As a result of the internet, consumers are more able to locate, communicate with, and transact with suppliers outside of their usual purchasing region. Australian consumers can more easily purchase goods from intrastate, interstate and international suppliers meaning they are able to access a wide range of products that they otherwise might not have been able to. With access to a wide range of suppliers and hence products, consumers may find it easier to find the exact product they want.

Evidence suggests that consumers do derive benefits from having access to a wider range of suppliers. According to the PwC/Frost & Sullivan research into the Australian online retail market, 15 per cent of respondents indicated that access to a wide range of products that were not available at a physical store is the primary reason for shopping online.

Our survey results also support this hypothesis with 81 per cent of respondents indicating that the internet has improved the access to goods and services. Interestingly, respondents are also purchasing from intrastate and interstate retailers as opposed to just overseas retailers.

Previous studies estimate benefits resulting from the increase in the variety of goods to be worth \$16 billion to Australians. Using the same methodology and with updated parameters from the 2012 PwC Internet attitudes survey this study estimates the consumer welfare gain from access to a wider range of products and services at \$5.4 billion.

**Feedback loops to suppliers have improved**

*The ad-supported ecosystem supports consumers with interacting and communicating with suppliers to improve products*

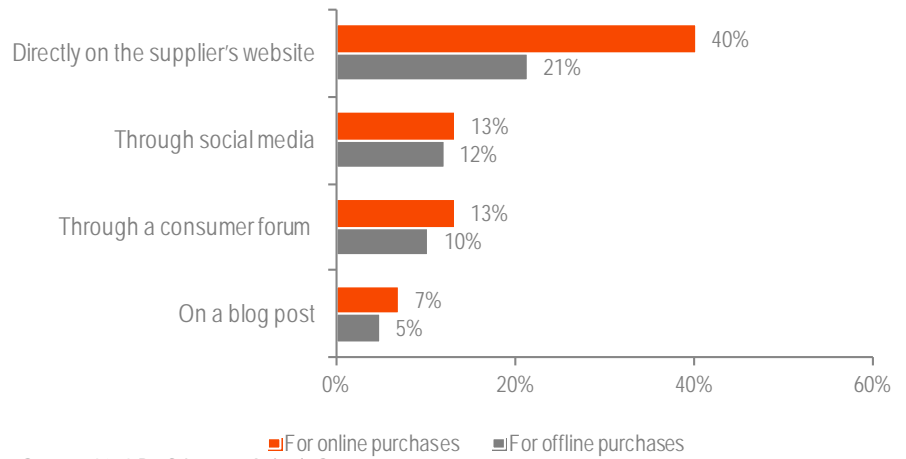
The ad-supported ecosystem has also reduced the costs involved with providing feedback to suppliers. The use of email, website contact pages and managed online communities allow lower cost direct communication with suppliers. Informal feedback through social media (e.g. Twitter, community forums, review sites, comments pages) also provides suppliers with valuable insights into consumer preferences.

According to our survey, 54 per cent of respondents had provided feedback online for their online purchases and more importantly, 45 per cent believe that the supplier acknowledged the feedback (and improved their product offering as a result). These perceptions highlight the potential consumer benefits of feedback loops, which is a process that is assisted by the ad-supported internet.

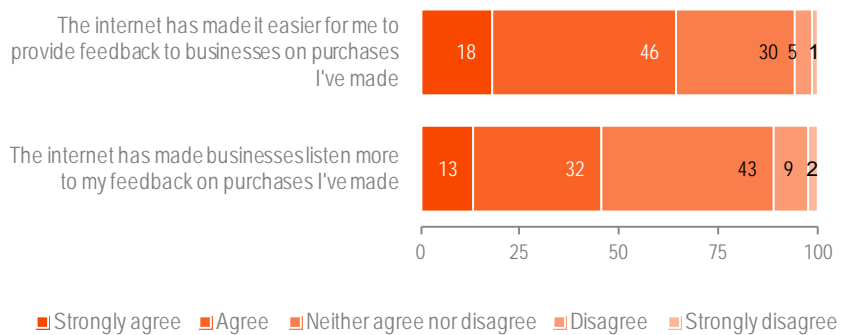
Over half of respondents also agreed that the internet has made it easier to provide feedback to businesses on purchases that they have made.

The extension of this is that the internet allows consumers to design or customise their purchases, allowing an even closer link between consumption and preferences.

**Figure 17– Consumers providing online feedback for purchases (% of respondents)**



**Figure 18– Providing feedback to businesses (% of respondents)**



### 2.1.3 New products and services have been created

*\$5.1 billion in consumer value generated*

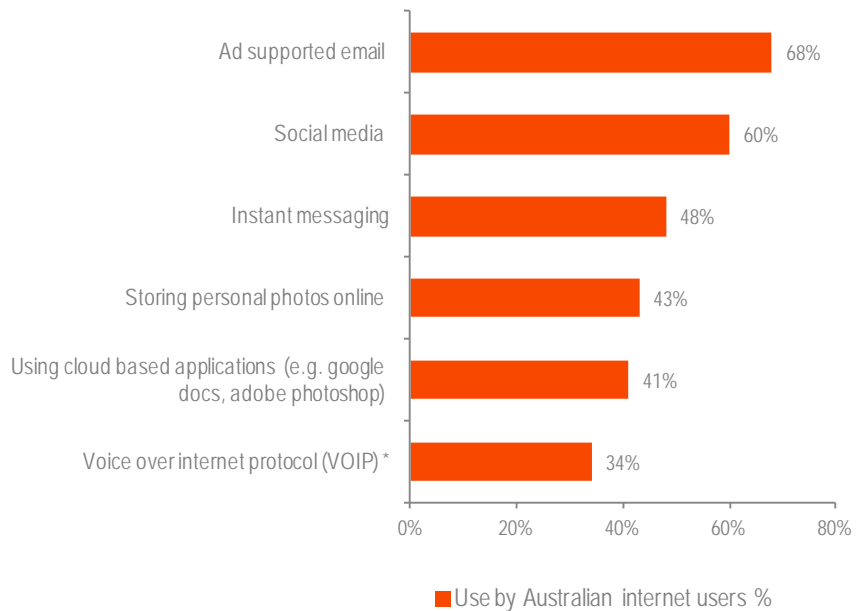
The ad-supported ecosystem has also resulted in entirely new products and services being created. Options for communication have changed and entertainment options have increased. Consumer behaviour (i.e. the use of the internet) suggests that consumers value these new products and services higher than the alternative uses of their time.

#### Communication has fundamentally changed

Increases in broadband speeds and connectivity have resulted in an increased use of web services such as online video chat and social networking platforms. According to the PwC survey, 77 per cent of respondents believe that the internet has improved their social life by providing easy-to-use platforms which allow them to keep in touch with their friends and family. Forty-six per cent of the respondents also feel it allows them to increase their social circle beyond regional boundaries.

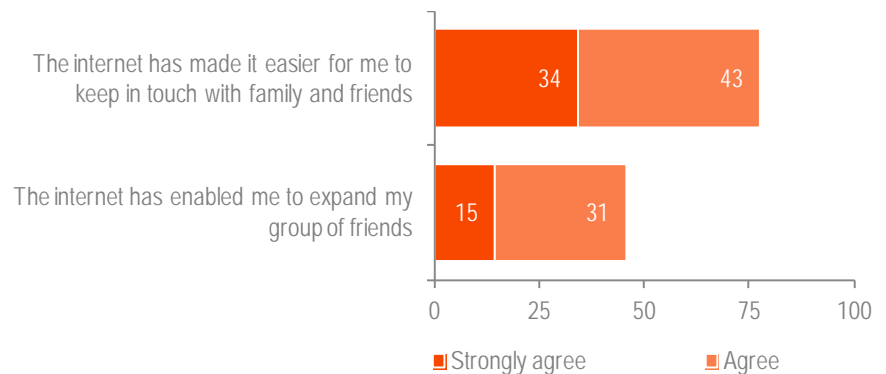
*“Social media has the power to connect people from around the globe. I value social media, especially Twitter, for the information it presents from people and places I would not otherwise be able to find out about so easily. I have been able to contact people from the past as well as connect with others I would not have been able to ‘face to face’ due to geographical distance.” (PwC survey respondent)*

**Figure 19– Online communication tools and their use by Australians**



Source: 2012 PwC Internet Attitude Survey

**Figure 20 – Consumer benefits of ad-supported internet services (% of respondents)**



Source: 2012 PwC Internet Attitude Survey



**Entertainment products have increased**

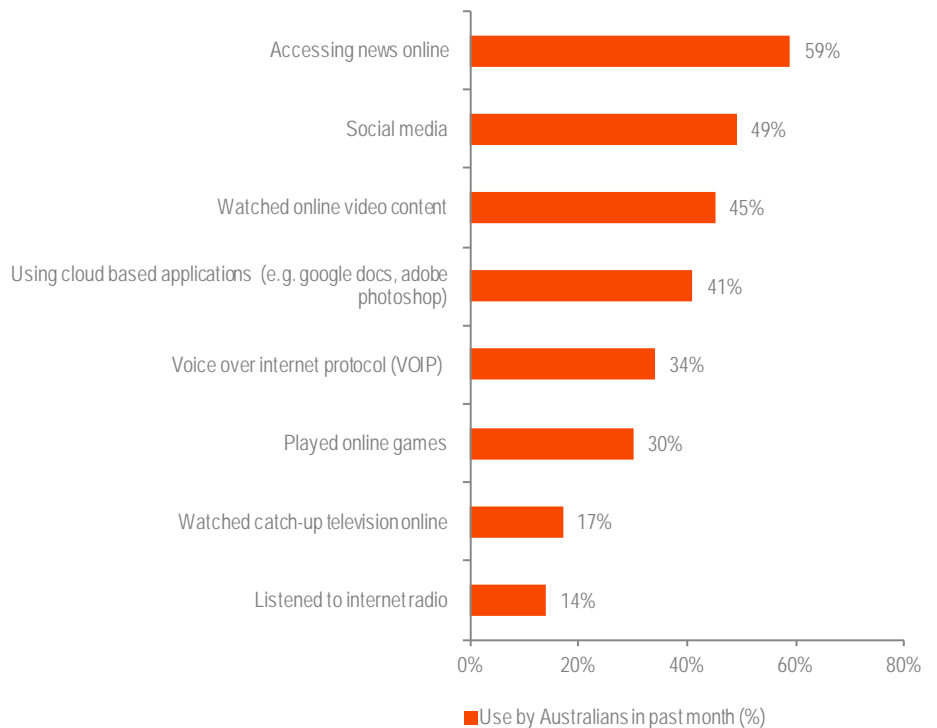
Consumers are increasing their time online and using the internet for entertainment purposes such as online video, music, gambling and games. These services are not always (and/or completely) enabled by advertising, that is, some of these services are on subscription or pay-as-you-go use basis.

**Estimating the scale of the gain in welfare**

To date there has been little work done to estimate this increase in welfare. In Europe and the US, IAB and McKinsey have used conjoint analysis to calculate the consumer surplus per household.<sup>29</sup> Lateral Economics has used a range of assumptions along with the results of the IAB/McKinsey study to value the consumer surplus for Australia at \$5.8 billion. Using a similar methodology, this report estimates the consumer surplus at \$5.1 billion.

Based on the lack of status-quo or base case data it is not feasible to add this estimate to the other estimates of consumer welfare gains.

**Figure 21 – Online entertainment tools and their use by Australians**



Source: ACMA 2011, Digital Australians— Expectations about media content in a converging media environment Qualitative and quantitative research report (October)

*“People can keep in contact with each other, obtain information from sources they wouldn't have had access to before and feel more involved with not only their immediate community but the world as a whole.” (PwC survey respondent)*

<sup>29</sup> 2010 IAB Europe, ‘Consumers driving the digital uptake: The economic value of online advertising based services for consumers

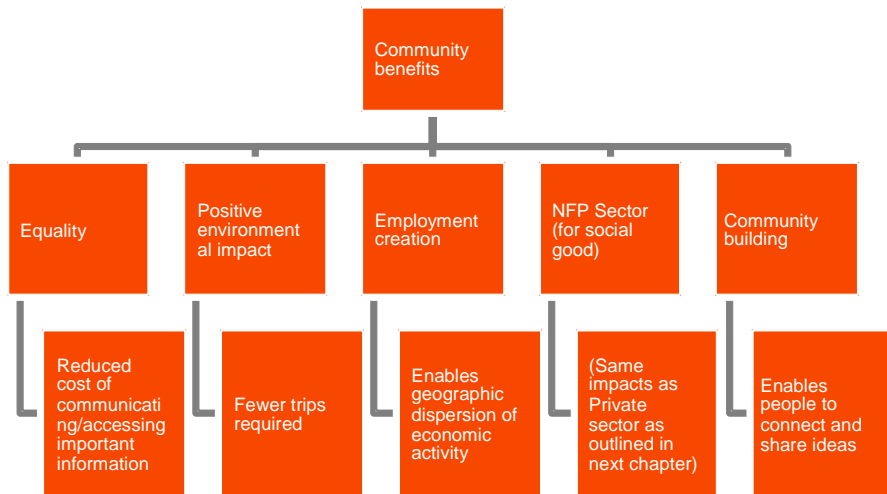
## 2.2 Community

*Total value generated - intangible*

In addition to the individual benefits gained by consumers' use of the ad-supported internet, there are benefits to the Australian community. These include the strengthening of communities and social networks; increased equity of access to information, products & services; changes in the geographic pattern of employment; and the growth of social enterprises.

Few attempts at quantification of these benefits in social welfare terms have been conducted, and estimating robust numbers to demonstrate the magnitude of the value gained are beyond the scope of this study. However, the 2012 PwC Internet Attitudes Survey provides some evidence that these benefits exist.

**Figure 22– Framework for community benefits from the ad-supported internet**



Source: PwC

### 2.2.1 Community building

The ad-supported ecosystem services have allowed more frequent and richer communication within our social networks. For example, Skype allows us to video conference with friends and family around the world; Seven’s Fango lets us instant message with other people watching the same television show; other social media sites let us share photos and videos with our friends and relatives.

According to the PwC survey,

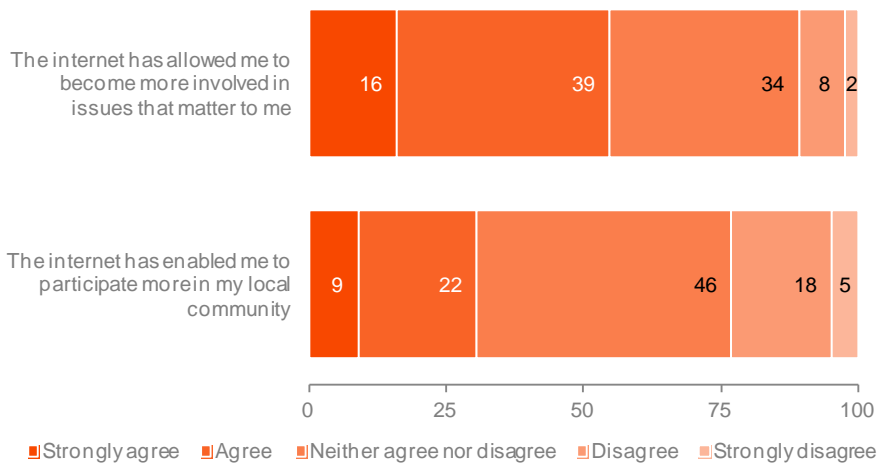
65 per cent of respondents agree that the internet has allowed them to become more involved in issues that matter to them.

Studies suggest that this communication within our social networks and the ability to increase the scale of our networks improves social capital.<sup>30</sup> Social capital is considered to be an economic resource that facilitates cooperation within a society and can lead to economic efficiency. It is closely associated with the level of trust within a society.<sup>31</sup> Research into social capital suggests that nations with high social capital tend to have decreased reliance on government

services through lower crime rates, reduced tax evasion; better health and educational outcomes and improved child welfare. Social capital is also seen to reduce transaction costs.

Within the social welfare framework the value derived from the ad-supported ecosystem that increase social capital would most likely be delivered through savings to government service delivery (e.g. policing, social services, etc). However, research into the contribution of the ad-supported ecosystem towards social capital is at an early stage and no robust method of quantification of the benefits is available, therefore for this report the benefit is only presented in qualitative form.

**Figure 23 – Getting involved with issues that matter (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

*“For me the Internet is the best form of staying in touch with my brothers in the UK, we get to talk on cam every day. I would really miss this if it was not around and would be back to massive phone bills.” (PwC survey respondent)*

<sup>30</sup> For example, see Burke, M., Kraut, R., and Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. ACM CHI 2011: Conference on Human Factors in Computing Systems.

<sup>31</sup> In 2003 the Productivity Commission published its report into social capital which provides an overview of the concept. <http://www.pc.gov.au/research/commission/social-capital>

### **2.2.2 Equity/digital inclusion**

Australian households with internet access are able to use ad-supported, free services to access information and services regardless of geographic location or socio-economic disposition. This access or 'digital inclusion' generates a range of economic benefits as well as increasing equity within society. Equity is a key concept in public sector economic literature where government services are often assessed in terms of their horizontal equity (i.e. availability to all) and vertical equity (i.e. additional level of services to provide a 'fair' standard of living for those less able to help themselves).<sup>32</sup>

In the UK, PwC research into the economic benefits of digital inclusion identified improved education and employment options and improved health and well-being outcomes as key benefits. These benefits are largely realised as a result of people being able to use search engines and information sites, share links and information via email, VoIP (voice over Internet Protocol) and social media.<sup>33</sup>

To quantify this potential benefit within the social welfare framework, it would be necessary to identify the incremental improvements in education and employment; health and well being benefits for the proportion of the population using ad-supported ecosystem services who previously did not have this access.

### **2.2.3 Employment pattern**

The ad-supported ecosystem has enabled the adjustment of geographic employment patterns and structures. Within the US economy evidence suggests that since 1995 (when widespread commercial adoption of the internet began), firms in the US that have invested in internet-based process innovation have become more dispersed.<sup>34</sup> Redistribution of the pattern of employment as a result of the internet is an unqualified benefit within the Australian context. The ad-supported ecosystem in Australia is a key enabler of the Australian Government's 'National Digital Economy Strategy', in particular to enable the goal regarding increasing teleworking.<sup>35</sup>

Research commissioned by the Government suggests that if 10 per cent of the Australian workforce teleworked 50 per cent of the time, it would generate economic, social and environmental benefits totaling \$1.4 billion to \$1.9 billion each year.<sup>36</sup>

By reducing the need for population density for the efficient production and consumption of services, the ad-supported ecosystem has potential to generate community-wide social welfare benefits through reduction in congestion within our major cities.

To quantify this potential benefit within the social welfare framework it would be necessary to identify the incremental improvements in education and employment; health and well being benefits for the proportion of the population using ad-supported ecosystem services who previously did not have this access.

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<sup>32</sup> For a discussion of equity with respect to government services see the productivity commission report [http://pc.gov.au/\\_\\_data/assets/pdf\\_file/0018/114912/government-services-2012-volume1.pdf](http://pc.gov.au/__data/assets/pdf_file/0018/114912/government-services-2012-volume1.pdf) p51

<sup>33</sup> PwC 2009, *Champion for Digital Inclusion, The Economic Case for Digital Inclusion*

<sup>34</sup> Harvard Business School (on behalf of IAB US) 2012, *Economic Value of the Advertising-Supported Internet Ecosystem*, p71

<sup>35</sup> Australian Government 2011, Department of Broadband Communications and the Digital Economy, #au20 National Digital Economy Strategy – Leveraging the National Broadband Network to Drive Australia's Digital Productivity

<sup>36</sup> Access Economics 2010, *Impacts of Teleworking under the NBN*

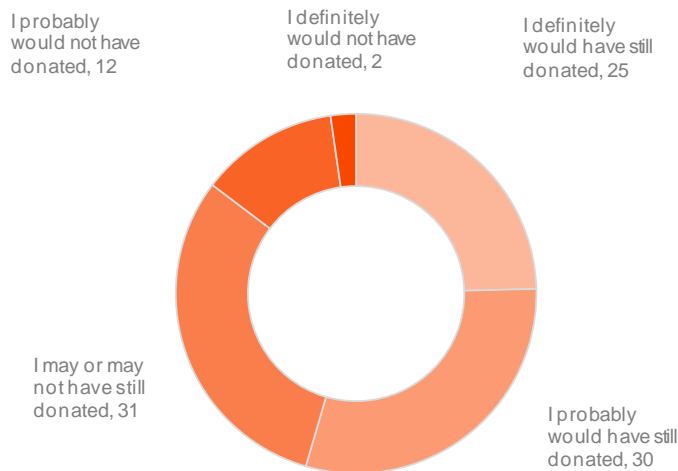
### 2.2.4 Not-for-profit sector

The ad-supported ecosystem provides a 'platform for social good' where social investment, philanthropy and social enterprises are able to increase their reach and scope through technology. It is unclear whether in aggregate this has led to an increase in participation (either through funding or activity) in the not-for-profit sector. Seventy-one per cent of Australians give money to charity, ranking high on the global scale already.

However, the ad-supported ecosystem is enabling increased efficiency in the not-for-profit sector. For example, The Australian Centre for Social Innovation provides guidance and support to a number of social enterprises including Family by Family, and Hello Sunday Morning. These organisations operate with a much lower cost model than previous not-for-profit attempts to tackle these social issues.

Responses to the PwC survey also suggest that the ad-supported ecosystem may be enabling increased giving. Forty-seven per cent of those surveyed indicated they had given money to a charity or good cause online. Forty-five per cent of those also indicated they may or may not have, probably or definitely wouldn't have donated if they couldn't do it online.

**Figure 24– Would you still have donated if you couldn't do it online? (% of respondents)**



Source: 2012 PwC Internet Attitude Survey

### Hello Sunday Morning

*Hello Sunday Morning was founded by Chris Raine and is a website that allows Australians to take responsibility and change their own drinking behaviour and the drinking behaviours of their peers.*

*This not-for-profit organisation employs ad-supported social media and blogs as tools to commit people to changing their drinking behaviour. The program involves Australians making a public commitment to 3, 6, or 12 months without alcohol online. The individual then blogs about how they are achieving the life goals they set themselves in this period and the challenges and positives that they face in their decision. The blog posts are also shared with their social networks.*

*Although relatively cheap to set up and maintain, social media profiles and blogs reach a wide audience, and for the purposes of Hello Sunday Morning, act as an important tool for committing individuals to change and a channel for support from family and friends to be communicated.*

### **2.2.5 Environmental impact**

The overall environmental impact of the internet is unclear. The production, operation and maintenance of the internet require considerable electricity power and generate other environmental impacts. However, it has also been suggested that the internet is changing travel patterns, for example reducing trips from better search, electronic delivery of products and services and economies of scale from improved delivery patterns.

The 2012 survey responses provide supporting evidence to this theory with around 70 per cent of respondents indicating that one of the very important or quite important factors in using the internet for researching shopping was to 'save travelling to stores'.

Studies from other jurisdictions have also linked declining vehicle transportation with internet penetration. A US study highlighted the decline in the number of 17 year-old Americans with driver's licenses from 69 per cent in 1983 to 50 per cent in 2008, which may be attributable to the internet in part.<sup>37</sup>

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<sup>37</sup> Sivak, M. & Schoettle, B. (2011), Recent Changes in the Age Composition of U.S. Drivers: Implications for the Extent, Safety, and Environmental Consequences of Personal Transportation, *Traffic Injury Prevention*, 12:6, pages 588-592

## 2.3 Producers

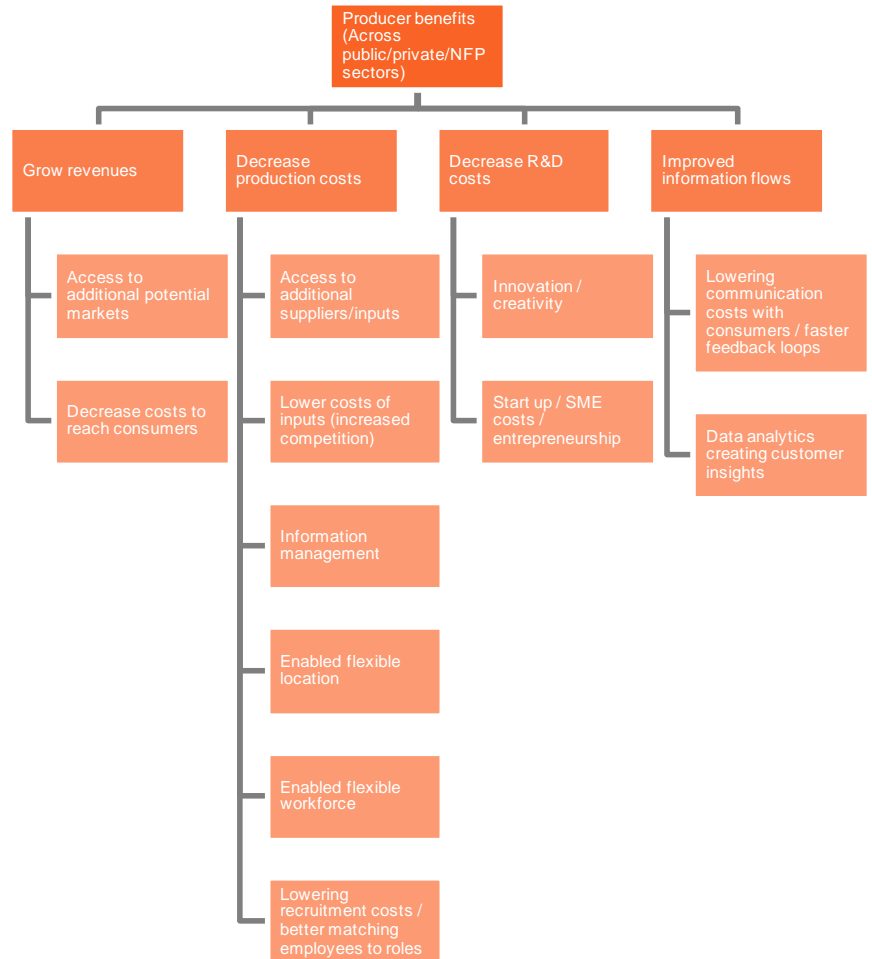
*Over \$27 billion in producer value generated*

Across the public, private and not-for-profit sectors the producers of goods and services within the Australian economy also benefit from the ad-supported internet. Previous studies have identified a range of benefits including the ability to expand markets, decrease production and R&D costs, and improve information flows to guide business strategy (Figure 25).

For each industry sector, the quantum of the benefits will be different. However, the types of benefits achievable by firms are similar. The overall benefit to the Australian economy of the ad-supported ecosystem is increasingly being realised through allowing Australian firms easier and lower cost access to international markets, and increasing economic efficiency across all sectors (see Appendix B for a more detailed discussion of the benefits).

Conceptually, the value that the internet has created within the Australian economy for producers can be measured by the additional producer surplus generated through the increase in productivity. Existing estimates for the quantum of the productivity gain rely on a 2003 Productivity Commission inquiry into gains from use of ICT. Based on that analysis, it is estimated that the increase in producer surplus from the internet contributed around \$27 billion to GDP in 2011.<sup>38</sup> Given that the research underpinning this estimate is almost a decade old, it is possible that it significantly underestimates the benefit.

**Figure 25 – Framework of producer benefits from the ad-supported ecosystem**



Source: PwC

<sup>38</sup> Deloitte 2011, The Connected Continent – How the internet is transforming the Australian Economy p19, The contribution to GDP would equate to the increase in social welfare.

Producers in the Australian economy are already using the ad-supported ecosystem to try to realise these benefits. Consumer demands and increased competition between producers within Australia is driving efficiencies. Globalisation, enabled by the internet, is allowing producers from other nations to enter the Australian market, much as it is opening up other markets to Australian producers.

In a 2011 industry level study commissioned by IBM it was forecast that by 2050, of the 509 defined classes of activity in the Australian economy, the internet will have led to:

- the demise of 15 industry classes (3 per cent of defined classes)
- transformation benefits for 54 classes (10 per cent)
- significant benefits for 84 classes (17 per cent)
- generalised benefits for the remainder (70 per cent).<sup>39</sup>

The internet is clearly a disruptive technology that is reshaping the global economy. The challenge and opportunity for Australia and its government is how to set the rules and regulations within the Australian economy to adapt to the new market conditions and enable Australian producers to harness achievable benefits and continue to succeed.

The impacts on public sector producers and SMEs are discussed in the sections below. The internet has brought changes to the way firms are organised and how products and services are created. This has potential to change the distribution of Australian economic activity between large and small firms.

### *Shoes of Prey*

*Custom Building the brand and boosting sales both locally and internationally through the ad-supported ecosystem*

Established in 2009 by ex-Google employees Michael Fox and Mike Knapp (and Jodie Fox not from Google), Shoes of Prey is an Australian based online shoe store that allows customers to design and customise shoes to their liking.

Aside from providing consumers with the ability to design their own shoe, Shoes of Prey owes a proportion of its success to the ad-supported ecosystem. The business has successfully leveraged websites such as Facebook and YouTube to gain social media coverage and build their brand in a relatively low cost manner.<sup>40</sup> Indeed, the business achieved a 300 per cent permanent uplift in sales, such was the success of their YouTube campaign which gained 500,000 views.<sup>41</sup>

Perhaps just as important is the fact that the business acts as a net exporter for Australia with 60 per cent of sales attributed to overseas customers.<sup>42</sup> It is questionable whether Shoes of Prey would have enjoyed such success both locally and internationally without the assistance of the ad-supported ecosystem.

<sup>39</sup> IBM 2012. A Snapshot of Australia's Digital Future to 2050, p76

<sup>40</sup> Telstra, Smarter Business Ideas 2010, McKinney R., Case study: Shoes of Prey and innovative e-commerce

<sup>41</sup> NetNeeds, Small Business Ideas, A Case Study – Shoes of Prey

<sup>42</sup> Monash University 2012, Australian Centre for Retail Studies, Global Retail Insights Presentation



## Public sector

The Australian public sector, across all jurisdictions, relies on the ad-supported internet to drive improved efficiency and effectiveness of the public sector. At a national level one of the goals of the National Digital Economy Strategy is to have four out of five Australians choose to interact with the government online by 2020.<sup>43</sup> This goal is driven both by citizen/customer expectation and a desire to increase the efficiency of government through lowering service costs.

In early 2012 the Australian Government released research indicating that Australians have a strong preference to interact with the government over the internet. Sixty-five per cent of people surveyed used e-government services in 2011 and 47 per cent of those surveyed indicated they would choose the internet channel over other channels if given a choice.<sup>44</sup>

In 2010, PwC UK estimated that the cost of providing services to the public face-to-face was A\$16 per service whereas the cost of providing services to the public through the online channel was around A\$0.12 per service.<sup>45</sup> More recently, aggregate savings were estimated to be equivalent to A\$2.5 billion to A\$2.7 billion each year (a saving in government expenditure on transactional services of 20 per cent to 30 per cent).<sup>46</sup> These savings would not have been realised without the ad-supported internet providing the public with information and communication tools to interact with the government (e.g. email, search). Beyond cost savings, the ad-supported ecosystem also enables the potential to reshape policy development and redesign the delivery of services. Reform 2 of the Australian Public Service 2010 Blueprint shared a vision of the future public service that used technology to *enable citizens to become active participants in*

*government and directly communicate their views and expertise to government through multiple channels, including Web 2.0 approaches (for example, online policy forums and blogs).*<sup>47</sup>

Examples of the public sector actively seeking to realise these benefits are constantly emerging. The South Australian Government used discussion forums to guide the development of their SA2020 strategic plan<sup>48</sup>; the city of Melbourne used a wiki to develop a 2030 community plan<sup>49</sup>; NSW uses its 'Have your say' website for input on a range of policy issues.<sup>50</sup> In changing service delivery, the police provide a strong example. In a range of states, police have embraced the ad-supported ecosystem to improve communications during crises (e.g. during the 2011 Queensland floods<sup>51</sup>); and as a modern 'neighbourhood watch' (see NSW Police Project Eyewatch as an example<sup>52</sup>).

<sup>43</sup> Australian Government 2011, Department of Broadband Communications and the Digital Economy, #au20 National Digital Economy Strategy – Leveraging the National Broadband Network to Drive Australia's Digital Productivity

<sup>44</sup> Australian Government 2012, Interacting with Government, [http://www.finance.gov.au/publications/interacting-with-government-2011/01-Executive\\_summary.html](http://www.finance.gov.au/publications/interacting-with-government-2011/01-Executive_summary.html)

<sup>45</sup> PwC UK 2009, The Economic Case for Digital Inclusion (October 2009)

<sup>46</sup> Government Digital Service 2012, The Digital Efficiency Report, <http://digital.cabinetoffice.gov.uk/2012/11/06/the-digital-efficiency-report/#more-6808>

<sup>47</sup> Australian Government 2010, Ahead of the Game: Blueprint for Reform of Australian Government Administration [http://www.dpvc.gov.au/publications/aga\\_reform/aga\\_reform\\_blueprint/part4.2.cfm](http://www.dpvc.gov.au/publications/aga_reform/aga_reform_blueprint/part4.2.cfm)

<sup>48</sup> South Australian Government, South Australia's Strategic Plan, <http://saplan.org.au/>

<sup>49</sup> City of Melbourne, Future Melbourne, <http://www.futuremelbourne.com.au/wiki/view/FMPlan>

<sup>50</sup> <http://www.nsw.gov.au/haveyoursay>

<sup>51</sup> Queensland Police Service 2012, Disaster Management and Social Media – a case study, <http://www.police.qld.gov.au/services/reportsPublications/other/socialmedia.htm>

<sup>52</sup> <https://www.facebook.com/ProjectEyewatch>

## Small to Medium Enterprises (SMEs)

There are an estimated 2.05 million SMEs in Australia.<sup>58</sup> They employ an estimated 7.38 million workers (70 per cent of the Australian workforce) and contribute \$780.4 billion (57 per cent) to GDP. Figure 26 summarises the current number of firms, employment, and contribution to GDP of the SMEs in the sectors of the economy considered to realise 'significant' or 'transformational' benefits in the future Australian economy in the period to 2050.<sup>59</sup> These are the firms that will need to continue to adapt and harness the benefits of the ad-supported ecosystem to realise their potential within the Australian economy.

SMEs across the Australian economy are accruing benefits as a result of the ad-supported ecosystem across the range of categories identified in Figure 25. Key benefits include new and lower cost approaches to grow revenues and decrease production and R&D costs. It is not possible to quantify the welfare gain (and is likely to be included in the overall estimation methodology used above), but it is possible to illustrate the magnitude of the potential benefits from an understanding of the sector and how it interacts with the ad-supported ecosystem.

SMEs are already using the ad-supported ecosystem to grow revenue and are generating returns from their investments online. In a recent survey, 55 per cent of SMEs that use e-commerce indicated they had already recovered the investments they made in the online channel and 41 per cent indicated they had made a return on investment of over 50 per cent. Figure 26 summarises some key statistics collected through recent survey work by a number of organisations.

**Figure 26 – SMEs in industry sectors likely to be significantly impacted by the internet**

Impact	Industry sector	Number of SMEs	SME Employees ('000)	SME contribution to GDP (\$bn)	SME share of sectors contribution to GDP (%)	2050 change in expected contribution to GDP (%)
Transformational	Professional, Scientific and Technical Services	250,094	720	70.8	6.6	+0.3
	Education and Training	26,006	241	64.3	4.5	+0.7
	Health Care and Social Assistance	100,789	573	64.3	5.9	+2.6
	Public Administration and Safety	7,715	50	58.8	5.0	+0.2
	Administrative and Support Services	81,336	477	61.0	2.3	+0.9
Significant	Mining	7,980	50	28.1	7.3	-2.9
	Retail Trade	143,275	792	57.9	4.4	-1.3
	Transport, Postal and Warehousing	131,796	329	42.8	5.1	-0.5
	Information Media & Telecommunications	18,838	76	18.8	3.2	+0.8

Source: PwC, IBM, ABS

### Birdsnest

#### Reducing the distance barrier with customers through the internet

Located in the regional NSW town of Cooma with a population of 6,500, Birdsnest began as a traditional bricks and mortar clothing store but has since transformed itself into one of the top apparel sites in Australia. Following the launch of their online store, Birdsnest now registers over one million views a month placing it inside the top 50 apparel sites in Australia.

One of the business' founders, Jane Cay, notes the importance of the internet in reducing the barriers of being located in a regional town. Through the online store, Birdsnest is able to sell its products to customers around Australia with relative ease. The ad-supported ecosystem in the form of search engines has also enabled the business to be discovered by new customers, thereby limiting the impact of being located in a small regional town with a limited customer base.<sup>53</sup>

The Cooma based business has grown from 5 to 40 people and employs staff who order and manage stock, photograph outfits for the website, write descriptions for the products and wrap and post orders to customers.

SMEs are also strong (and increasing) users of the ad-supported ecosystem to improve the efficiency and effectiveness of communication with consumers.

Recent survey evidence also suggests that SMEs use the ad-supported ecosystem to drive down input costs. Business to business purchases are across a

range of categories including equipment, stock/merchandise, office supplies and travel and accommodation. Eighty-two per cent of SMEs use the internet to research information and to look for suppliers. Seventy-one per cent use it to order and 73 per cent use it to pay for products and services. Eighty-five per cent of all SMEs use internet banking.<sup>54</sup>

This use of the internet by SMEs and the benefits derived would not be possible without the ad-supported services including search and directories, information sites, comparison shopping sites, social media, community forums and marketplace platforms.

**Figure 27– SMEs use of the ad-supported ecosystem to grow revenue**

Statistic	per cent of all SMEs	# of SMEs (millions)
Have internet access	98%	2.0
Sell online	51%	1.1
Recovered their online investment	28%	0.6
Achieved over 50 % return on their online investment	12%	0.2
Generate more than 50 % of revenue online	6% – 12%	0.1 – 0.2
Expect to generate more than 50 % of revenue online in 3 - 5 years	16%	0.3
Believe that consumers will expect them to have mobile websites within 3-5 years	28%	0.6
Believe that consumers will expect them to have mobile applications (apps) within 3-5 years	35%	0.7

Sources: ABS, Sensis e-business report, Optus Future of Business, PwC

**Figure 28– SMEs use of the ad-supported internet to improve communication with customers**

Statistic	per cent of all SMEs	# of SMEs
Use email to communicate with customers	98%	2
Have a website	62%	1.3
Intend to develop a mobile application within 3 – 5 years	50%	1
Indicate their website has increased business effectiveness	45%	0.9
Advertise online	29%	0.6
Use social media to communicate with customers	27% - 39%	0.6 – 0.8
Believe customers will want to interact through social media with them in the next 3 to 5 years.	54%	1.1

Sources: ABS, Sensis e-business report, Optus Future of Business, PwC

<sup>53</sup> Australian Government 2011, Department of Broadband, Communications and the Digital Economy, From regional fashion store to leading online retailer: New case study for digitalbusiness.gov.au, <http://www.digitalbusiness.gov.au/2011/12/13/from-regional-fashion-store-to-leading-online-retailer/>

<sup>54</sup> Sensis 2012, e-Business Report, The Online Experience of Small and Medium Enterprises



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# Appendix A Methodology

## Methodology

Two different frameworks were used to explore the contribution of the ecosystem to Australia. First economic activity was compiled based on national account data to generate estimates of the contribution to GDP and employment. Secondly, a social welfare framework was used to estimate the incremental value that the ad-supported internet ecosystem has generated for Australians.

The Australian economic activity supported by the ad-supported internet ecosystem was estimated using a 'bottom-up' income based method which identified employment in each sector and profit generated by Australian firms. This approach was used to maintain consistency with the 2012 US IAB study with a similar scope.<sup>55</sup> The approach also allowed for further segmentation of the economic activity into activity where online advertising is essential for it to exist (core), partially relies on online advertising (partial) or derives significant benefits from the existence of the core sectors (interdependent).

The economic and social benefits generated by the ad-supported internet ecosystem were investigated using a social welfare framework which sought to estimate the additional consumer and producer surplus generated by the core sectors. A framework was developed to explore the benefits enjoyed individually by consumers and producers and collectively by the community.

The framework is a first attempt to try to pull together and estimate where possible a range of the benefits which are attributed to the internet. The framework is intended to be further refined and improved over time as the study on the impacts of the internet continues. The framework is preliminary in nature and borrows from the approach used by the Productivity Commission when assessing the costs of government services.

Many of the benefits are difficult to measure; others where a value can be estimated lack an alternative or base case against which the incremental improvement in welfare can be estimated. Therefore, we note that the estimated figure is a preliminary, conservative estimate of the benefits based on available data. It does not include a range of benefits which are yet to be estimated including benefits realised by communities which are difficult to quantify.

## *Estimating the economic contribution of the ad-supported internet*

This analysis applies the 'income approach' to estimating the economic activity attributable to Australia's ad-supported internet industry. This approach is largely consistent with that of the Harvard Business School, who conducted a similar analysis on behalf of IAB US (Economic Value of the Advertising-Supported Internet Ecosystem, 2012).

The income approach can be described as a 'bottom up' exercise where the total economic contribution of the ad-supported internet is generated by adding up economic contribution of the sectors of which it is comprised. In practice, the estimation of the economic contribution of the ad-supported ecosystem, in terms of economic output (GDP) and employment, was fulfilled by:

- 1 identifying the sectors which comprise the ad-supported ecosystem and are considered part of the internet ecosystem. This includes core, partial and non-dedicated sectors as outlined in Figure 1 on page 7.
- 2 collecting industry data (IBISWorld), including value add, revenue and employment, for the sectors within the internet ecosystem
- 3 refining and summing the industry data to determine the total economic contribution of all the sectors within the ad-supported internet ecosystem.

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<sup>55</sup> IAB US 2012, Economic value of the advertising-supported internet ecosystem

The value added figures adopted in this report to measure contribution to economic output (GDP) are defined as the market value of goods and services produced by an industry minus the cost of goods and services used in the production process.

In addition to maintaining consistency with the IAB US report, the income approach also provides insight into the economic contribution of industries within the internet ecosystem.

# Appendix B Producers

**Figure 29 – Description of Producer Benefits**

Producer benefit	Description of economy-wide benefit
Increased revenue through access to additional potential markets	Productivity gains may be achieved for a segment of producers whose sales increase as a consequence of gaining access to additional markets via the internet. This ultimately results in increased production, greater economies of scale and productivity improvements.
Increased profit through decreasing the costs to reach consumers	Productivity gains may be achieved if fewer resources are spent by producers finding and communicating with customers. Better targeted advertising, websites, email, IM, livechat, VOIP, social media, etc are improving the ability of producers to communicate with their market.
Decreased production costs through access to access to additional suppliers	Productivity gains may be achieved through lower input costs brought about by increased competition between suppliers.
Decreased production costs through lower costs of inputs from increased competition	Lower input prices may reduce the price of goods resulting in increased consumption. Producers may also be more internationally competitive as a result of decreased input costs.
Decreased production costs through improved information management	Productivity gains through the reducing information search costs, cloud storage, flexible storage, SaaS. These are all economic efficiency arguments and should be reflected in productivity.
Decreased production costs through greater location flexibility afforded	Increased economic activity in regional areas and increased competitiveness of businesses in regional areas may result from the internet reducing the burden of physical isolation.
Decreased production costs through greater workforce flexibility	Productivity gains may be achieved as employees are more able to work from convenient locations as a result of the internet. This reduces potential employee downtime.
Decreased production costs through lower recruitment costs / better matching of employees to roles	Productivity gains may result for businesses who can spend less time and resources on recruitment and more time on core business activities. Greater labour market liquidity is also possible as a result of employment websites, which may potentially lead to lower unemployment.
Decreased R&D costs through enhanced innovation / creativity	Decreased cost of R&D results in greater entrepreneurial activity, which generates employment and increases output in the economy.
Decreased R&D costs through lower start up / SME costs / entrepreneurship costs	Decreased cost of R&D results in greater entrepreneurial activity, which generates employment and increases output in the economy.
Improved information flows through lower communication costs with consumers / faster feedback loops	Productivity may increase as the increase ease in which producers can interact with consumers means more resources can be devoted to production activities.
Improved information flows through greater data analytics that creates customer insights	Use of data analytics and customer insights could result more efficient allocation of resources. For example, producers who are more informed of consumer preferences are able to focus their resources to the required areas resulting in less wastage of inputs and resources.

