



Australian Government

**Department of Communications,
Information Technology and the Arts**

INFORMATION ECONOMY INDEX

2006

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Table of contents

Table of contents	3
Executive summary	4
Summary of Index rankings and scores	5
Methodology	6
2006 Information Economy Index Score Table	7
A. READINESS TO PARTICIPATE IN THE INFORMATION ECONOMY	8
Consumer use of technologies	8
1. Percentage of persons 16 years and over with use of a mobile phone	8
2. Percentage of households which owned / leased a PC	9
3. Percentage of households online	10
4. Percentage of persons with Internet access via a home PC	11
5. Percentage of persons 16 years and over with Internet access from any location	12
6. Percentage of persons 16 years and over with Internet access at home or work	13
Equity of access	14
7. Percentage of persons 16 years and over with Internet access by gender	14
8. Percentage of persons 16 years and over with Internet access by age group	15
Broadband	16
9. Broadband home Internet users	16
10. Broadband households as percentage of total households	17
11. Price of broadband access	18
12. Wireless Internet access	19
B. INTENSITY OF INTERNET USE	20
13. Average number of Internet sessions and hours online per month	20
14. Percentage of Internet users 16 years and over purchasing online in the last six months	21
E-business	22
15. Percentage of businesses online	22
16. Percentage of businesses placing orders online	23
17. Number of secure servers per million inhabitants	24
18. E-readiness rankings	25
E-government	26
19. Penetration of online government services	26
20. E-government rankings	27
ENDNOTES	28

Executive summary

The world today is a largely networked community, and in countries at the forefront of the information economy Internet access and online activities have increasingly significant implications in terms of how people live and work. In the majority of countries benchmarked in this report, the Internet is now a familiar technology in households, offices and libraries, and it is not a coincidence that the best performing countries are also those where adequate infrastructure and government policies, together with a dynamic business environment, have helped to build sizeable online populations.

The 2006 Information Economy Index measures 20 items of the online performance of 10 countries: Australia, Canada, France, Germany, Italy, Japan, Spain, Sweden, the United Kingdom and the United States. The US, Australia, Canada and Sweden have been leaders in the Internet arena for some years, consolidating their position from early adopters of new technologies to global leaders of online activity. Data presented in this report will show that some of these countries have reached a stage of Internet maturity, with resulting slower rates of growth than those experienced in previous years. Greater maturity of online populations has also inevitably generated demand for more sophisticated and advanced online technologies (e.g. broadband, Voice over the Internet Protocol), thus creating a new generation of challenges for both demand and supply forces. Depending on the availability of benchmarking data, how these countries perform with regard to the adoption and supply of more sophisticated online technologies, will be monitored with interest in future editions of the Information Economy Index.

In the 2006 Index, the UK, Japan, Germany, France, Italy and Spain all recorded increasing levels of Internet use and volume of online activities across a majority of indicators. These countries are now moving towards the higher online participation rates experienced by information economy leaders.

Individual Indicators

The indicators used in this evaluation cover consumer use of technologies, equity of Internet access, broadband adoption, intensity of Internet use, e-business and e-government. For the majority of indicators the reference period is the 3d Quarter (July to September) 2005. The indicators were chosen and developed in accordance with the following parameters (in order of importance):

- relevance of the indicator as a measure of development and progress of the information economy for each one of the countries benchmarked;
- for each indicator the data used is to be homogenous in terms of methodology, reference period and clear units of measure; and
- likelihood of future availability of compatible data for continued benchmarking.

All indicators and corresponding scores for each country are listed on page 7. Compared to the 2004 Information Economy Index, the 2006 report includes one additional indicator (16) measuring the percentage of businesses placing orders online.

2006 Composite Index Rankings

The 2006 Index ranks the US and Canada overall 1st and 2nd respectively. The US, the best performing country since the first Information Economy Index was published in 2002, is ranked 1st in seven indicators measuring online access and equity, intensity of Internet use and business online. Canada is ranked 2nd with 68 points, ahead of Australia and Sweden (67 points each).

Australia's improved ranking is not built upon performing best in any given number of indicators, but on recording higher scores than in 2004 in all but indicators 6 (percentage of persons 16 years and over with Internet access at home and work) and 17 (number of secure servers per million inhabitants). This solid performance across the board helped Australia reach its highest ever Index ranking.

Canada, and to a lesser degree Sweden, recorded equal or marginally lower percentages than those recorded in the 2004 Index in 50 per cent of comparable indicators for Canada, and 39 per cent of comparable indicators for Sweden. Sweden, however, was ranked 1st in six indicators (1, 3, 4, 5, 6 and 15) measuring mobile phone penetration, and Internet access by households, population and business. The UK's performance is strong across the Index, with only indicators 5, 7 and 8 recording lower scores than in 2004. Japan was ranked 1st in three indicators (11, 12 and 15), but its ordinary performance in the area of Internet penetration in particular resulted in an average ranking position. For the remaining countries, higher indicator scores were recorded in the majority of instances in 2006. France and Spain improved their positions against 17 indicators, Germany improved in 15 indicators and Italy in 13.

Summary of Index rankings and scores

INFORMATION ECONOMY INDEX RANKINGS			
Country	2006 Index	2004 Index*	2003 Index*
US	1	1	1
Canada	2	2	2
Australia	3	6	5
Sweden	3	3	3
UK	5	7	7
Japan	6	8	9
Germany	7	9	8
France	8	12	11
Italy	9	11	10
Spain	9	10	12

* In 2003 and 2004 the Index covered the ten countries ranked in 2006 plus Hong Kong and the Netherlands.

Methodology

Each indicator is given equal weighting in terms of its contribution to the final ranking of countries. Depending on the type of indicator, three different scoring methodologies have been adopted.

Firstly, for the majority of indicators comprising the Index, individual country scores are derived by converting penetration levels (percentage take-up) directly to points. For example, if a country is estimated to have 72 per cent of its population 16 years and over with Internet access then that country receives 72 points for that specific indicator.

Secondly, in cases where the indicator presents comparative data on the cost of Internet access, the country with the cheapest Internet access receives the maximum number of points (in this case 100 points). All other countries receive a proportion of the maximum number of points available on the basis of their position relative to the country with the cheapest Internet access price. For example, in terms of *Indicator 11—Price of broadband access*, Japan was the cheapest country recording \$US17.3 as the lower monthly rental charge for Internet access via DSL. Japan therefore received the maximum score (100 points). Spain was the most expensive country recording \$US50.9, approximately 2.94 times more expensive than Japan. On this basis Spain received 34 points ($100/2.94$). The same approach is used for *Indicator 17—Number of secure servers per million inhabitants*.

Thirdly, for *Indicator 7—Percentage of persons 16 years and over with Internet access by gender* (i.e. measuring the disparity in access between males and females), points have been allocated on the basis of the difference in access levels, e.g. for Australia, where 87 per cent of males and 86 per cent of females had Internet access, the score is $100 - (87 - 86) = 99$. This approach was also adopted for *Indicator 8—Percentage of persons 16 years and over with Internet access by age group*, with one slight variation; only the differences in Internet access levels between persons aged 65 years and over (consistently the lowest users of the Internet) and persons aged 16–24 years (consistently the highest users of the Internet) were taken into account.

The data presented in the Index is summarised in the following table. For each country the table presents:

- individual scores for each indicator;
- a total score calculated across all indicators;
- an average score, which is used to produce the final country ranking, calculated by taking the total number of points each country received and dividing by the number of indicators for which data is available; and
- a final ranking from 1 to 10 (10 being the lowest rank).

2006 Information Economy Index Score Table

Ref No.	INDICATOR
1	Percentage of persons 16 years and over with use of a mobile phone
2	Percentage of households which own / lease a PC
3	Percentage of households online
4	Percentage of persons with Internet access via home PC
5	Percentage of persons 16 years and over with Internet access from any location
6	Percentage of persons 16 years and over with Internet access at home or work
7	Percentage of persons 16 years and over with Internet access by gender
8	Percentage of persons 16 years and over with Internet access by age group
9	Broadband home Internet users
10	Broadband households as a percentage of total households
11	Price of broadband access
12	Wireless Internet access
13	Average number of Internet sessions and hours online per month
14	Percentage of persons 16 years and over purchasing online
15	Percentage of businesses online
16	Percentage of businesses placing orders online
17	Number of secure servers per million inhabitants
18	E-readiness rankings
19	Penetration of online government services
20	E-government rankings

Ref. No.	Australia	Canada	France	Germany	Italy	Japan	Spain	Sweden	UK	US
1	80	57	64	74	84	55	75	84	80	72
2	71	75	53	59	58	50	52	73	61	74
3	65	63	40	54	52	50	44	69	63	68
4	66	na	37	54	50	57	38	74	57	74
5	86	78	67	68	65	41	64	89	77	82
6*	108	113	71	90	84	na	73	119	101	115
7	99	97	90	85	88	86	93	96	93	100
8	63	54	34	25	29	na	26	62	42	na
9	60	77	87	55	64	na	75	53	68	64
10	31	52	34	24	26	46	32	35	35	37
11	75	49	76	54	39	100	34	58	60	64
12	30	23	30	26	15	82	20	42	35	33
13*	64	na	72	58	na	60	64	51	54	62
14	39	34	28	38	15	na	18	43	47	65
15	90	94	88	94	87	96	87	96	87	94
16	45	56	33	47	4	26	3	38	50	58
17	59	71	9	24	5	23	10	46	51	100
18	85	84	79	83	71	78	73	87	86	89
19	39	na	34	20	32	34	34	32	27	33
20	87	84	69	81	68	78	58	90	88	91
Total	1342	1161	1095	1113	936	962	973	1337	1262	1375
# indicators	20	17	20	20	19	16	20	20	20	19
Score	67	68	55	56	49	60	49	67	63	72
Ranking	3	2	8	7	9	6	9	3	5	1

* Combined score

Leading score for each indicator in bold numbers.

A. READINESS TO PARTICIPATE IN THE INFORMATION ECONOMY

Consumer use of technologies

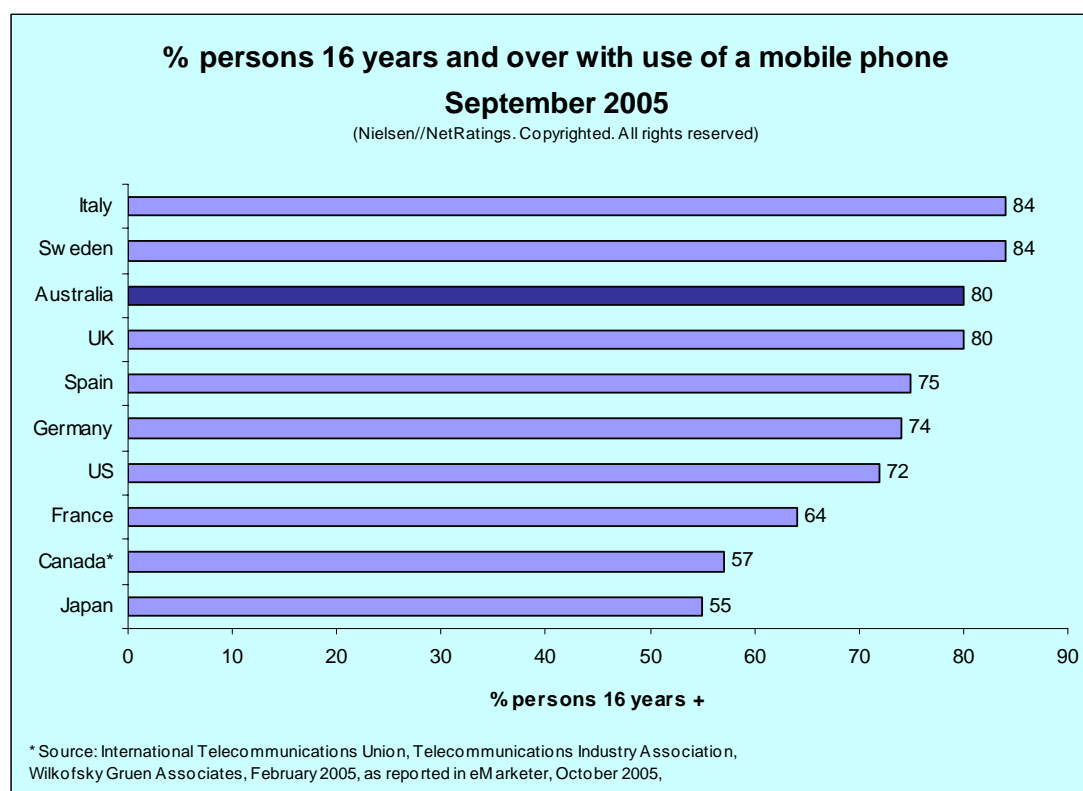
The first six indicators that follow measure the use of technologies such as mobile phones and personal computers, as well as Internet penetration in households and populations. High levels of technology use and Internet penetration have long been recognised as key components in the performance of information economy leaders.

1. Percentage of persons 16 years and over with use of a mobile phone

Score

IE INDEX	2006	2004	2003
Italy	84	80	67
Sweden	84	84	72
Australia	80	72	65
UK	80	76	79
Spain	75	66	51
Germany	74	72	56
US	72	64	54
France	64	57	52
Canada	57	55	61
Japan	55	51	42

According to Nielsen//NetRatings, the proportion of persons aged 16 years and over with use of a mobile phone in Italy increased from 67 per cent in 2003 to 84 per cent in 2005. Italy shared the top ranking with Sweden, which was ranked first both in 2003 (72 per cent) and 2004 (84 per cent). Other strong performers were Australia and the UK (80 per cent each). The country showing the greater increase in mobile phones use was Spain (from 51 per cent in the 2003 Index to 75 per cent in the 2006 Index, equal to an increase of 47 per cent over the period).



2. Percentage of households which owned / leased a PC

Score

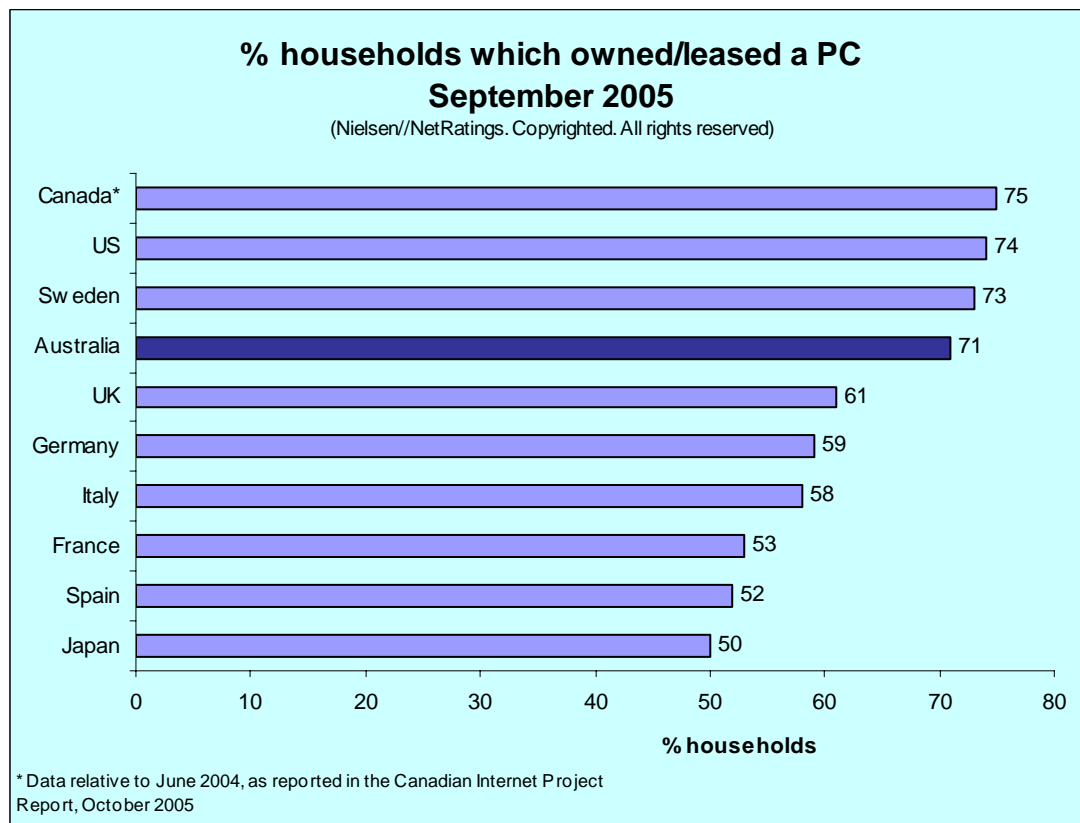
IE INDEX	2006	2004	2003
Canada	75	75	65
US	74	70	67
Sweden	73	73	68
Australia	71	65	65
UK	61	55	55
Germany	59	53	47
Italy	58	53	47
France	53	45	37
Spain	52	54	45
Japan	50	42	40

Over the last three years, Canada, the US, Sweden and Australia consistently recorded the highest percentages of households owning/leasing a PC among the countries benchmarked, indicating that the personal computer in these countries is mainstream technology.

All the countries benchmarked showed positive growth in the use of PCs. France (maybe as a consequence of having a much lower starting base and thus greater margins for growth) rose from the lowest ranking position (37 per cent of

households) in the 2003 Index to 8th in 2006, ahead of Spain and Japan.

Household PC use is a key element in a country's readiness to participate in the information economy, and high levels of household PC use/ownership and Internet access are often complementary.



3. Percentage of households online

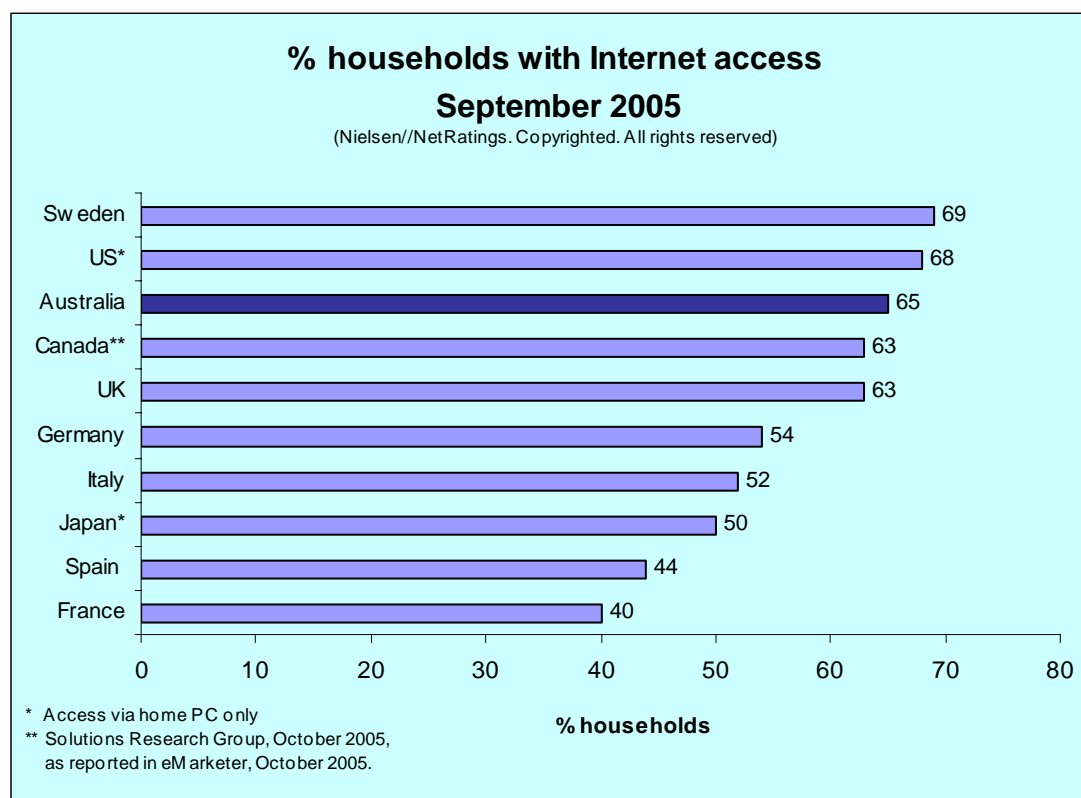
Score

IE INDEX	2006	2004	2003
Sweden	69	66	63
US	68	68	60
Australia	65	56	54
Canada	63	64	59
UK	63	58	52
Germany	54	47	43
Italy	52	46	41
Japan	50	39	36
Spain	44	42	30
France	40	31	27

The household is the most popular point of Internet access in all countries ahead of other locations such as work, educational institution, library or Internet café, and the highest percentages of households online were recorded by Sweden, the US, Australia, Canada and the UK.

However, the countries ranked in lower positions achieved larger increases in households online (Japan from 36 per cent in 2003 to 50 per cent in 2006, and Spain from 30 per cent to 44 per cent).

Households may access the Internet via home PC, work PC, mobile phone, or Palm Pilot.



Trend over time for Australia

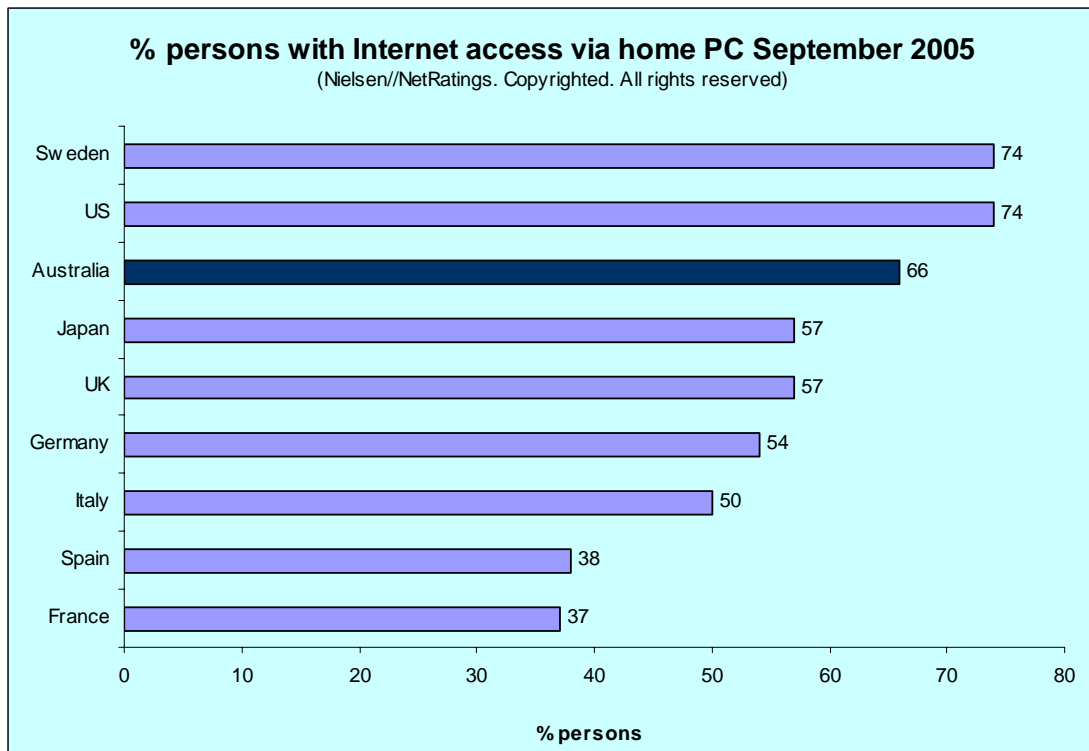
The percentage of total households with Internet access in Australia in September 2005 was 65 per cent compared with 16 per centⁱ in 1998 (305 per cent increase). The sizeable increase in households online in Australia from 2004 (56 per cent) to 2006 (65 per cent) suggests that strong growth in online access is set to continue in the immediate future.

4. Percentage of persons with Internet access via a home PC

Score

IE INDEX	2006	2004	2003
Sweden	74	70	69
US	74	70	64
Australia	66	59	57
Japan	57	47	49
UK	57	50	50
Germany	54	49	44
Italy	50	43	50
Spain	38	35	27
France	37	33	26
Canada	na	68	57

This indicator equally reflects the dominance of Sweden, the US, Canada and Australia in terms of home Internet access, while the UK is positioned at a distance as a result of its increasing level of adoption of technologies other than the home PC to access the Internet. Japan, Germany, Spain and France all recorded increases since 2003, while Italy experienced a contraction in the percentage of persons accessing the Internet via a home PC in 2004.

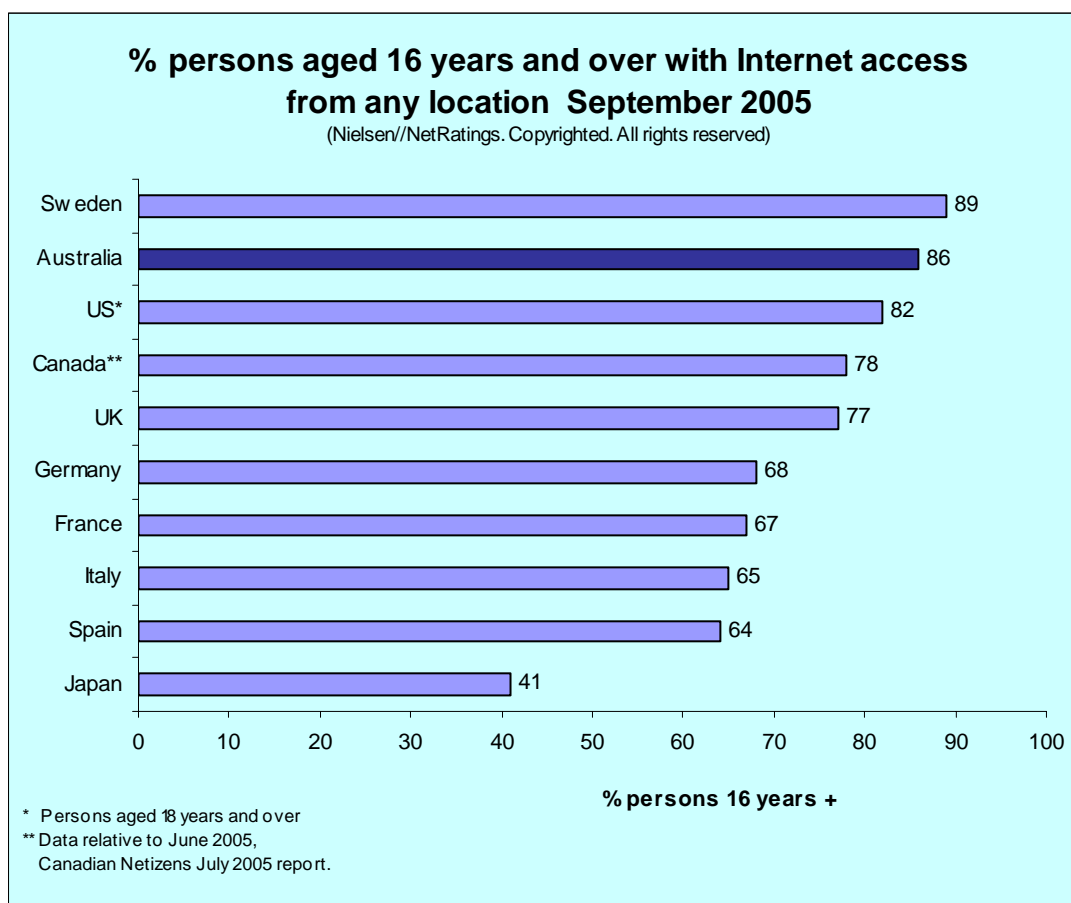


5. Percentage of persons 16 years and over with Internet access from any location

Score

IE INDEX	2006	2004	2003
Sweden	89	89	85
Australia	86	84	72
US	82	83	78
Canada	78	79	73
UK	77	80	68
Germany	68	67	58
France	67	63	56
Italy	65	60	55
Spain	64	62	47
Japan	41	33	32

All the countries benchmarked recorded strong rates of Internet access from any location with the exception of Japan, where only 41 per cent of persons aged 16 years and over had access to the Internet in September 2005. Countries showing significant increases in the percentage of persons with Internet access compared to 2003 are Spain, Australia, France, Italy and Germany.



6. Percentage of persons 16 years and over with Internet access at home or work

Score: home or work combined

IE INDEX	2006	2004	2003
Sweden	119	133	114
US	115	110	105
Canada	113	110	98
Australia	108	109	89
UK	101	94	89
Germany	90	83	75
Italy	84	68	68
Spain	73	67	54
France	71	50	53
Japan	na	69	55

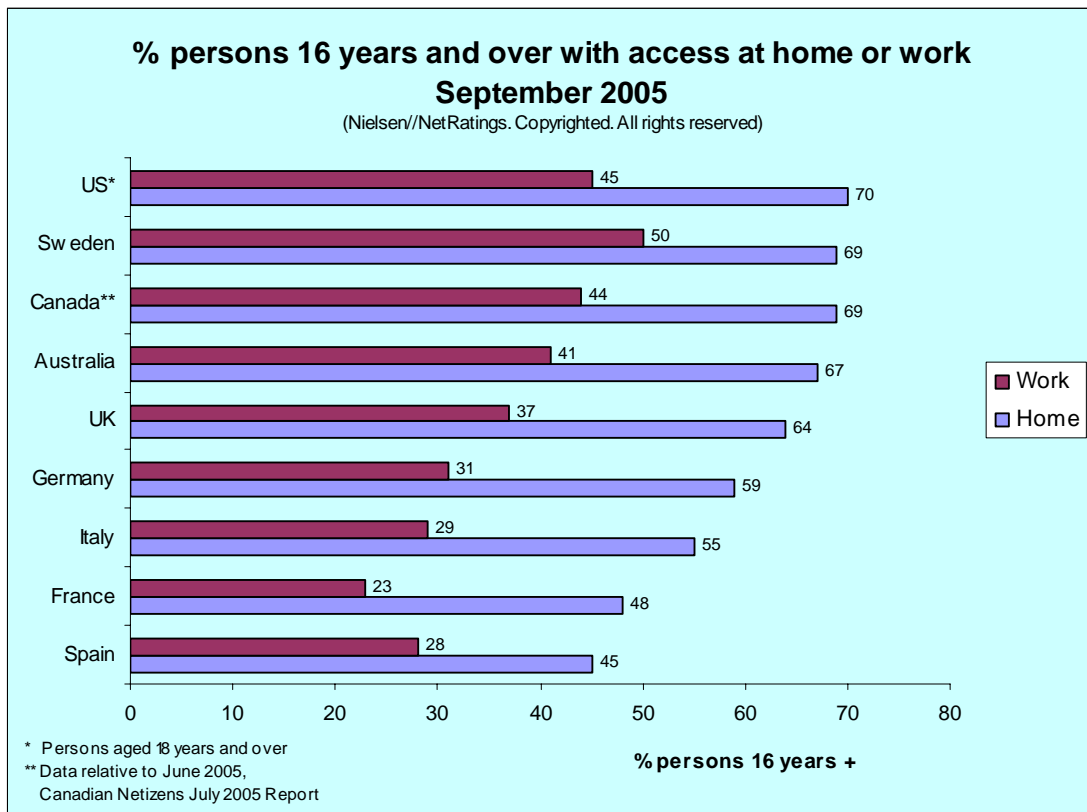
Access @ home

The US scores the highest percentage for Internet access at home, although in the final composite score it is overtaken by Sweden by virtue of Sweden's higher rate of Internet access at work. Canada, Australia and the UK also recorded participation rates in excess of 60 per cent. Home is the preferred point of Internet access in all countries benchmarked.

Access @ work

Internet access at work was the highest in Sweden, with the percentage trend across countries being generally lower than that recorded for Internet access at home.

Sweden's combined score decreased from 133 in 2004 to 119 in 2006 as a result of a drop in the percentage of persons with Internet access at work (from 62 per cent in 2004 to 45 per cent in 2006). Australia's score also decreased from 109 in 2004 to 108 in 2006. In Australia's case, Internet access at work decreased from 44 per cent in 2004 to 41 per cent in 2006, while Internet access at home increased from 65 per cent to 69 per cent in the same period.



Equity of access

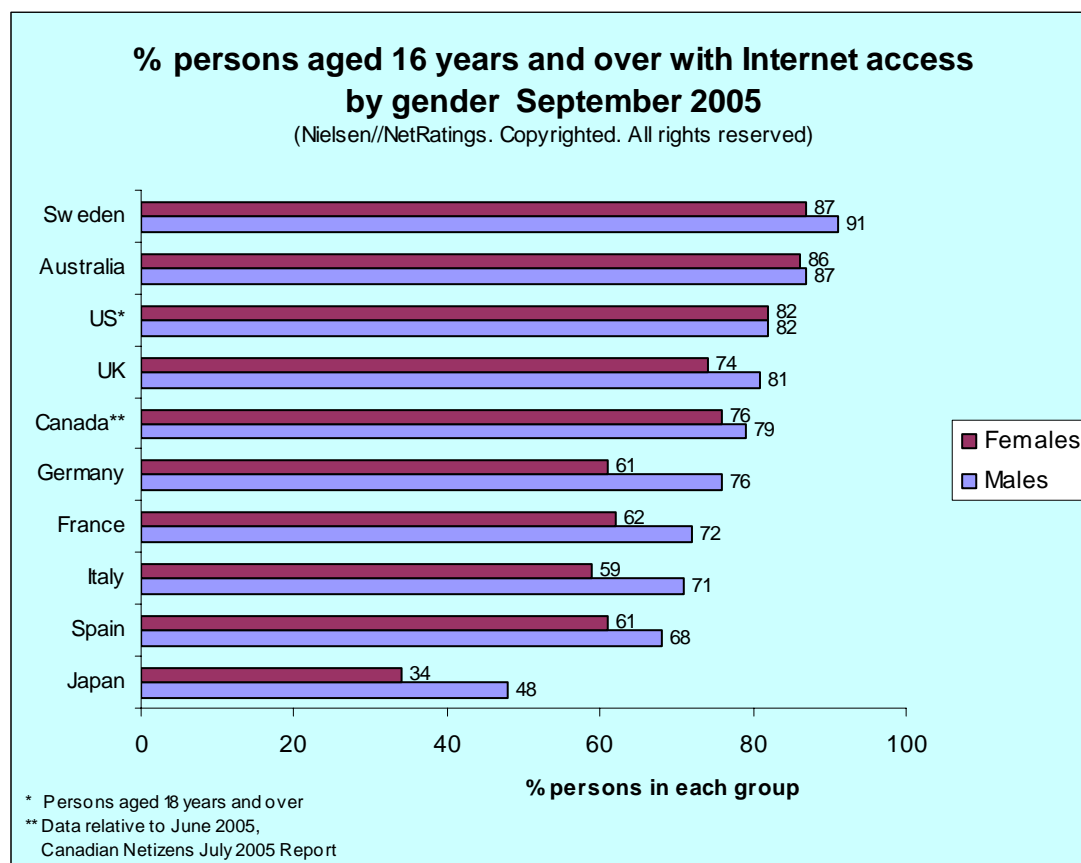
Indicators 7 and 8 measure the equity of Internet access between genders, and age groups. Internet access creates new opportunities which can be of significant value to users. Access to these opportunities is then an equity issue, and minimising inequalities in online participation due to differences in income levels, education, location, marital status, gender and age becomes an important social goal.

7. Percentage of persons 16 years and over with Internet access by gender

Score

IE INDEX	2006	2004	2003
US	100	99	94
Australia	99	96	95
Canada	97	97	98
Sweden	96	95	95
Spain	93	89	96
UK	93	98	92
France	90	91	88
Italy	88	84	95
Japan	86	89	87
Germany	85	82	93

The US has lower percentages of Internet access than Australia and Sweden, but was ranked first with 100 points as in the US the same percentage of females and males had Internet access. Hence it can be argued that in September 2005 there was absolute equity of access between genders in the US. Australia, Canada and Sweden showed very narrow differences in Internet access by gender, and were ranked immediately after the US. Please refer to p. 6 for an explanation of the method used to rank countries for this indicator.



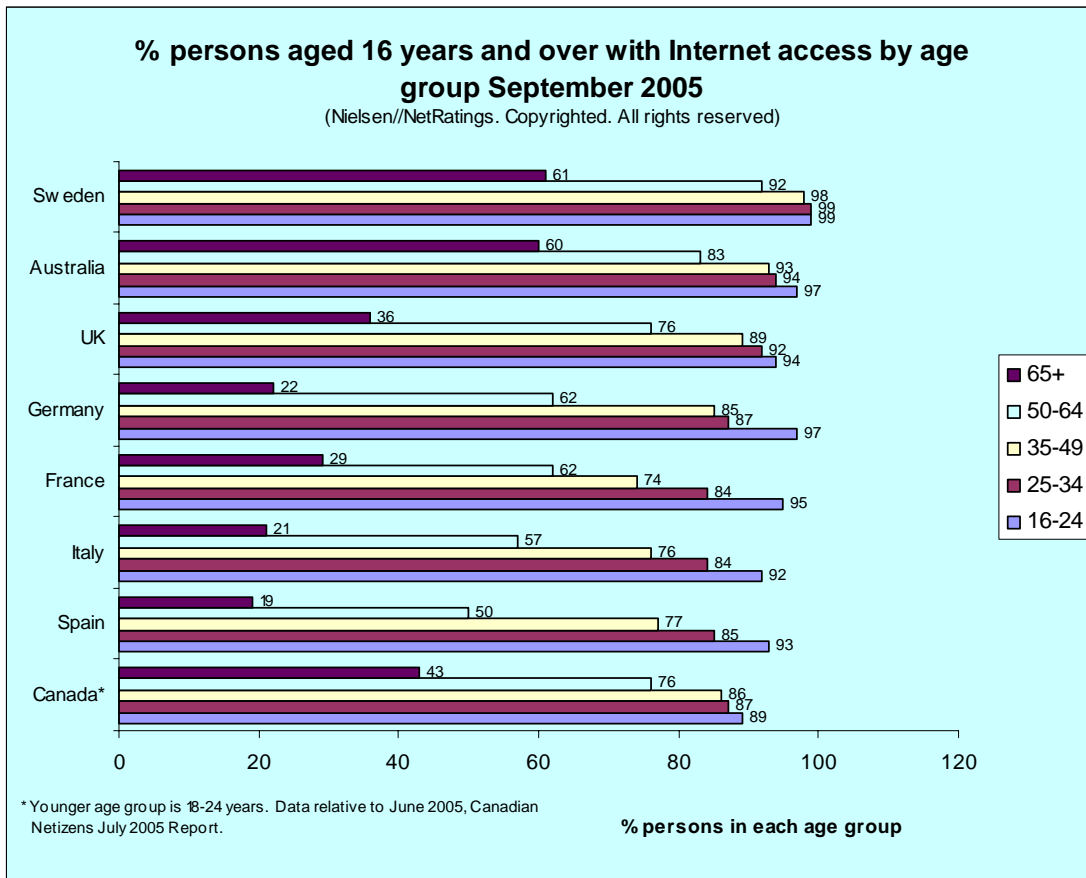
8. Percentage of persons 16 years and over with Internet access by age group

Score

IE INDEX	2006	2004	2003
Australia	63	50	81
Sweden	62	64	83
Canada	54	48	87
UK	42	58	76
France	34	28	67
Italy	29	24	69
Spain	26	25	68
Germany	25	25	71
US	na	na	na
Japan	na	na	na

Having increased its score by 13 points since 2004, Australia is ranked 1st ahead of Sweden and Canada. Australia's improvement was a direct result of the increase in the percentage of persons with Internet access in the 65 years plus group (from 45 per cent in 2004 to 60 per cent in 2006). The large decrease in score for the UK since 2004 is attributable to the lower percentage of persons with Internet access in the 65 years plus group (from 53 per cent in 2004 to 36 per cent in 2006). 2003 Index scores are substantially higher than those

recorded in the 2004 and 2006 Indexes. This is due to the different age groups used in 2003, where Internet users were divided between only two age groups: the 16 to 34 year group, and the 35 year plus group. For an explanation on the method used to calculate scores for this indicator, please refer to p. 6 of the Index.



Broadband

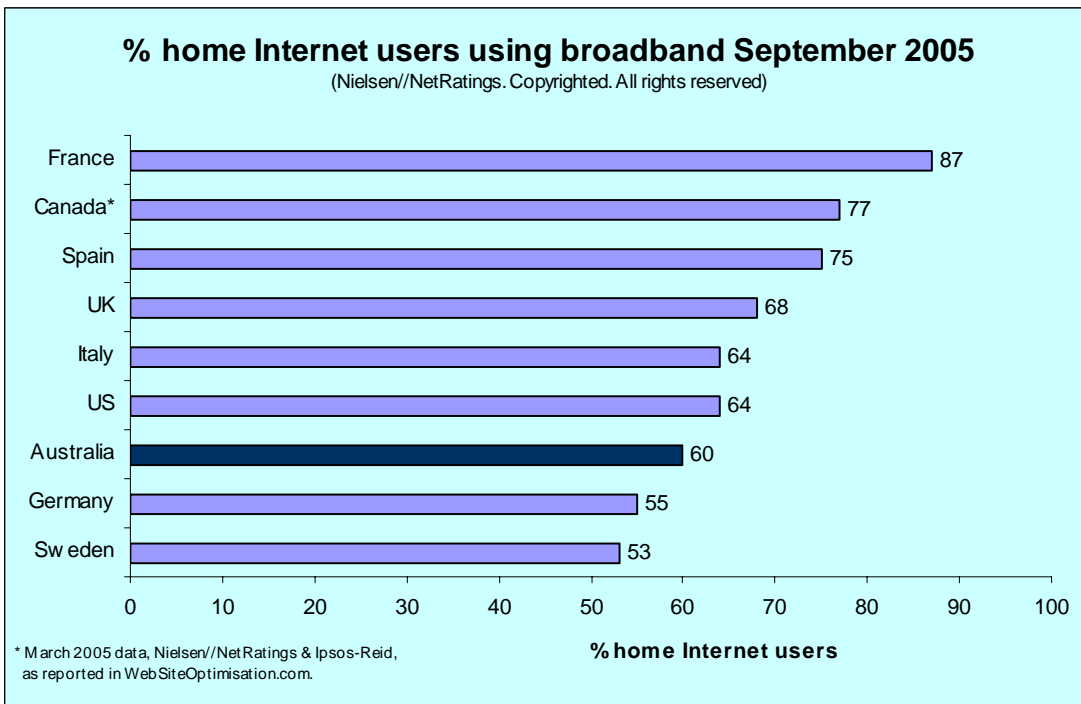
Indicators 9, 10 and 11 benchmark levels of adoption of broadband technology by populations and households, as well as entry level prices for Digital Subscriber Line (DSL) technology. In view of the rapid increases in the use of broadband technology recorded in the past two years, *“particularly useful in a policy context is the benchmarking of broadband connectivity amongst consumers, as demand for broadband technology reflects an increasing need for efficiency, higher quality electronic service delivery and online content”ⁱⁱ*.

9. Broadband home Internet users

Score

IE INDEX	2006	2004	2003
France	87	47	25
Canada	77	58	48
Spain	75	40	19
UK	68	27	13
Italy	64	24	9
US	64	39	28
Australia	60	21	9
Germany	55	30	20
Sweden	53	35	24
Japan	na	56	26

The uptake of broadband technology by Internet users around the world has dramatically increased over the last three years. Growth in the adoption of broadband, which has been particularly evident in countries starting from a relatively modest base such as Italy and Australia, has been strong to the point that in the majority of countries benchmarked 60 per cent or more of home Internet users now access the Internet via a broadband connection.



Trend over time for Australia

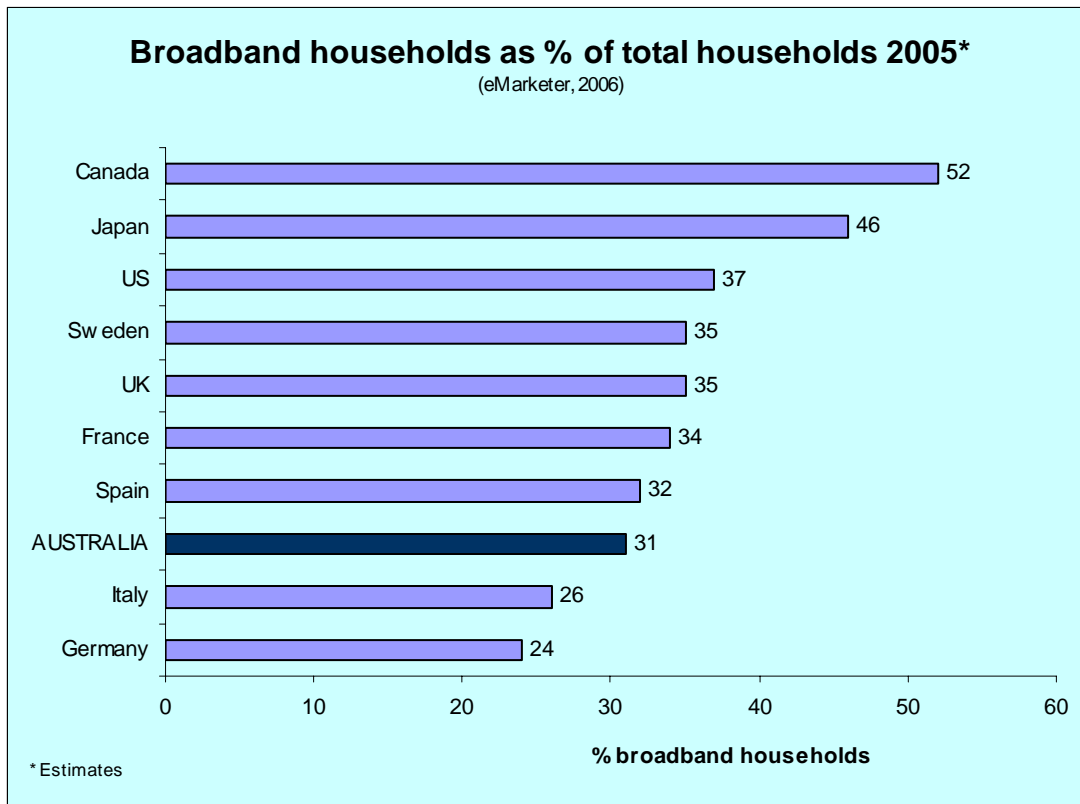
The percentage of home Internet users using broadband in Australia increased from 5 per cent in June 2001 to 60 per cent in September 2005. This is equal to an increase of 1100 per cent over a five year period.

10. Broadband households as percentage of total households

Score

IE INDEX	2006	2004	2003
Canada	52	36	29
Japan	46	28	16
US	37	23	16
Sweden	35	21	17
UK	35	13	5
France	34	11	6
Spain	32	14	8
Australia	31	9	4
Italy	26	9	4
Germany	24	10	8

In 2005 Canada recorded the highest percentage of broadband households ahead of Japan, the US, Sweden, the UK and the remaining countries. Percentage increases for this indicator have been smaller than those recorded for home Internet users using broadband, and this can be expected considering the different characteristics of households compared to individual Internet users. Past scores from previous Indexes also show how the top rankings have remained unchanged since 2003, with the steady percentage increases experienced by the leading countries unlikely produce changes in rankings in the short term.



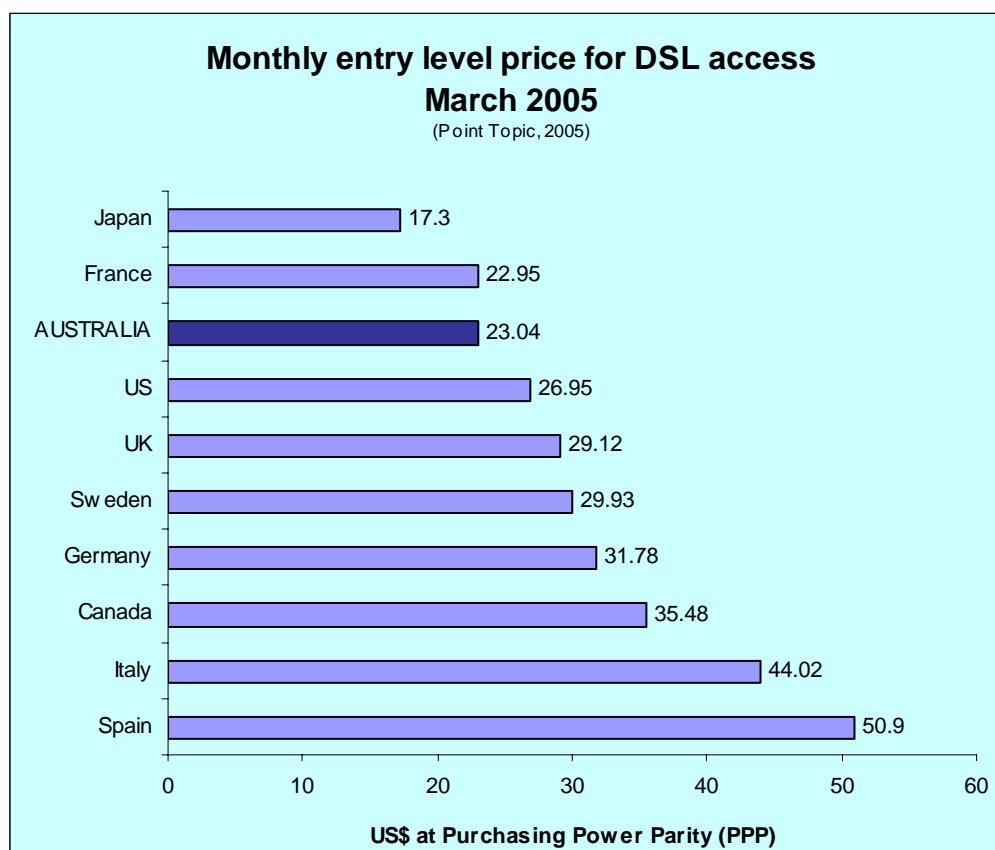
11. Price of broadband access

Score

IE INDEX	2006	2004
Japan	100	100
France	76	43
Australia	75	62
US	64	51
UK	60	42
Sweden	58	38
Germany	54	43
Canada	49	56
Italy	39	32
Spain	34	27

At March 2005, Japan had the cheapest price for entry level DSL service, followed by France and Australia. Japan retained its top ranking from 2004 even though it recorded an increase in the DSL entry level price at PPPⁱⁱⁱ rates from US\$13.77 in the 2004 Index to US\$17.3 in the 2006 Index. Australia also recorded a marginal increase in price from US\$22.16 to US\$23.04, while France in 2006 surged into the second highest ranking after slashing the price of entry level DSL access from US\$32.01 in 2004 to US\$22.95 in 2006. Internet users in Canada experienced the highest increase in entry level DSL price in the period considered (from US\$24.58 in 2004 to US\$35.48 in 2006).

In the 2004 Index this indicator replaced the indicator "Price of 40 hours of Internet use at peak times" used in the 2003 Index. Therefore, comparable data on the entry level price of DSL access for 2003 is not available.

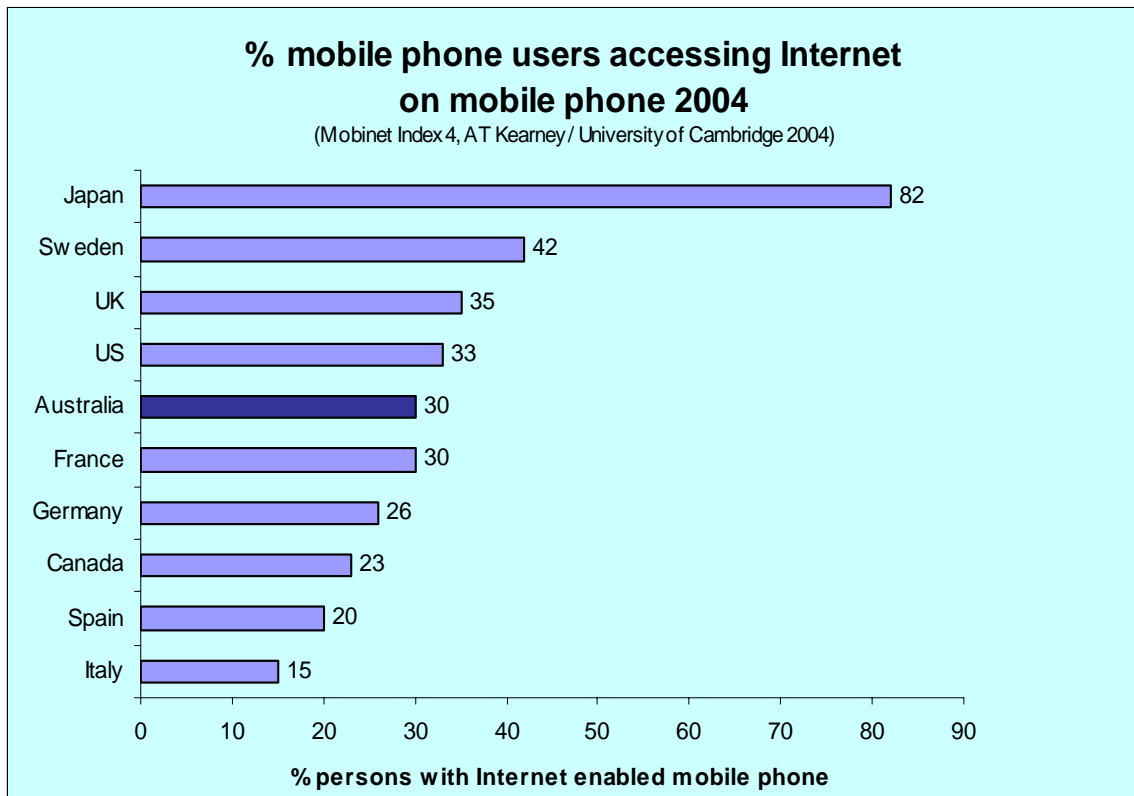


12. Wireless Internet access

Score

IE INDEX	2006	2004	2003
Japan	82	70	83
Sweden	42	29	23
UK	35	31	30
US	33	24	40
Australia	30	19	19
France	30	16	8
Germany	26	27	14
Canada	23	27	22
Spain	20	14	16
Italy	15	17	15

Japan is the world leader in terms on Internet access via mobile phone, with 82 per cent of persons with a mobile phone having Internet access via their phone. The gap between Japan and the rest of the countries is substantial, with most countries recording 30 per cent or less for persons with Internet enabled mobile phones. Over the period considered, the countries showing the largest increases in the adoption of Internet enabled mobile phones were Sweden, France, and Australia, while the US experienced a decrease in the popularity of wireless Internet access.



B. INTENSITY OF INTERNET USE

13. Average number of Internet sessions and hours online per month

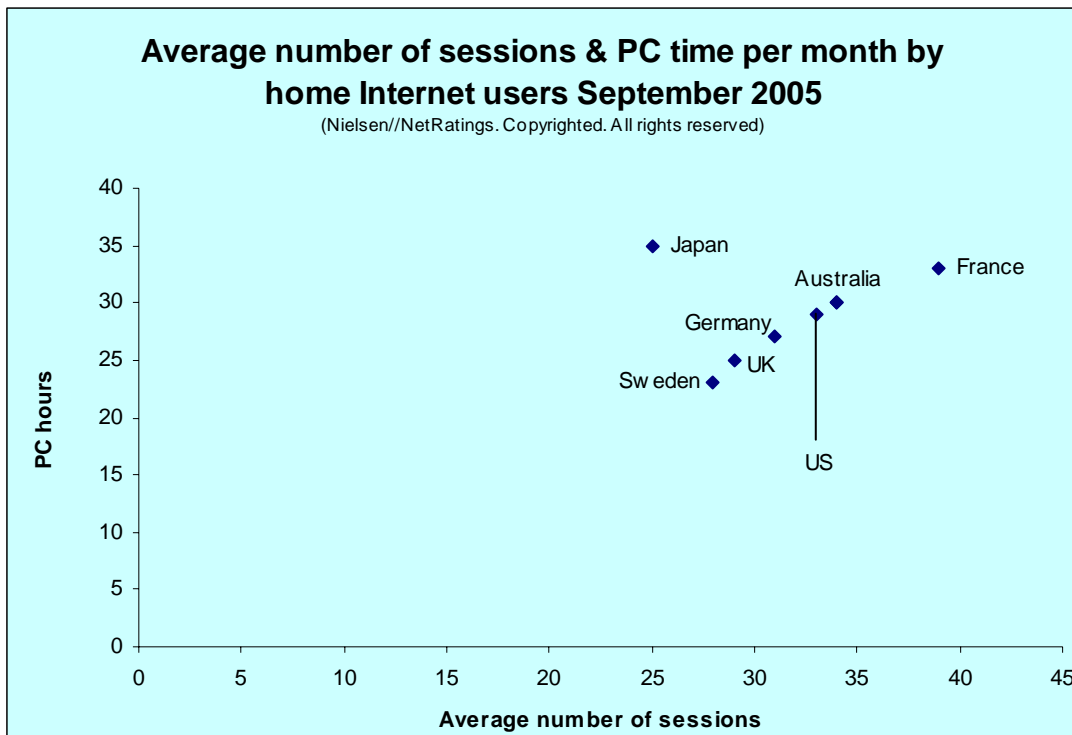
Score: Number of sessions/month & time online/month combined

IE INDEX	2006	2004	2003
France	72	33	27
Australia	64	28	25
Spain	64	31	22
US	62	37	34
Japan	60	39	33
Germany	58	31	29
UK	54	27	21
Sweden	51	27	24
Italy	na	19	18
Canada	na	na	34

The table beside illustrates how the number of sessions and time online per month have increased two and in some cases three-fold since this indicator was first benchmarked in the 2003 Information Economy Index.

France performed well across the 2006 Index and topped the ranks in this indicator, with 39 sessions and 33 hours online per person per month compared with 18 sessions and 9 hours online in 2003.

Following France were Australia (34 sessions and 30 hours online), Spain (34 sessions and 30 hours online), the US (33 sessions and 29 hours online), Japan (25 sessions and 35 hours online), Germany (31 sessions and 27 hours online), the UK (29 sessions and 25 hours online), and Sweden (28 sessions and 23 hours online).



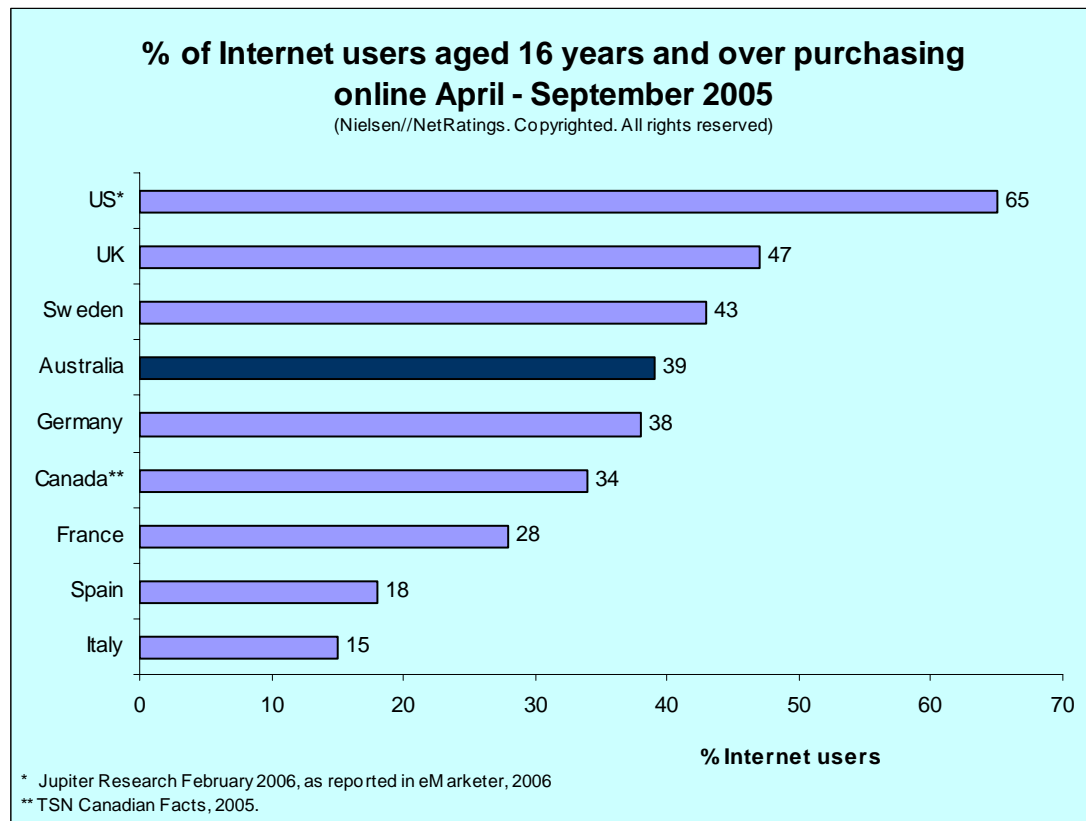
14. Percentage of Internet users 16 years and over purchasing online in the last six months

Purchasing online is one of the most popular activities among Internet users in the global information economy. Its attractiveness in recent years has been enhanced by the higher level of security for online transactions (e.g. increasing number of secure servers, advances in encryption technologies) as well as by a greater range of ordering and paying options developed specifically to make purchasing online a more simple and secure activity.

Score

IE INDEX	2006	2004	2003
US	65	58	32
UK	47	43	23
Sweden	43	40	26
Australia	39	33	18
Germany	38	34	13
Canada	34	35	34
France	28	18	11
Spain	18	14	4
Italy	15	11	5
Japan	na	21	19

The percentage of Internet users purchasing online in the US has more than doubled since initial benchmarking in 2003. The popularity of this online activity in the US places the country at the top of the rankings well ahead of other countries which, nevertheless, show solid growth rates over time. Canada retains a middle ranking despite recording a marginal decrease in Internet users purchasing online in the last periods considered.



E-business

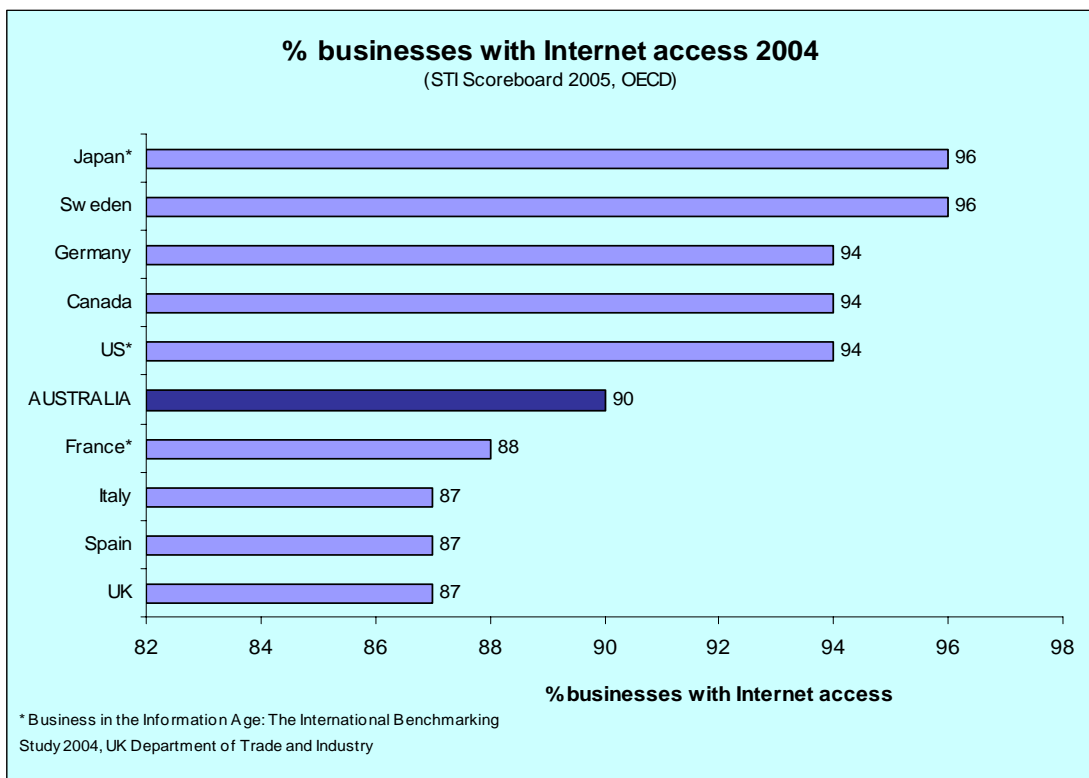
The proportion of businesses online is a reliable indicator of the readiness and capability of a country to take advantage of the business opportunities provided by e-commerce. Business online presence and/or capacity to carry out online processes (both business-to-business and business-to-consumer) can open new markets and decrease a range of operational costs thus increasing profitability. More specifically, *“the Internet as a major ICT is an emerging platform for the transformation of key business and agency functions, including service delivery, customer relationship management, organisational administration, supply chain management, and knowledge or data management”^{iv}*.

15. Percentage of businesses online

Score

IE INDEX	2006	2003
Japan	96	92
Sweden	96	99
Canada	94	95
Germany	94	96
US	94	94
Australia	90	89
France	88	73
Italy	87	91
Spain	87	92
UK	87	84

The percentage of businesses using the Internet has been high for all countries benchmarked since 2003. Scores range from the high eighties for the countries in the bottom half of the table, to the high nineties for top ranked countries such as Japan and Sweden (96 points each). Compared to 2003, Sweden recorded a 3 per cent drop in the percentage of online businesses, a trend also experienced by Canada, Germany, Italy and Spain. The US recorded no change. Data from the 2004 Index is not included in the table beside, as in that year the Index re-presented 2003 data due to lack of data for 2004.

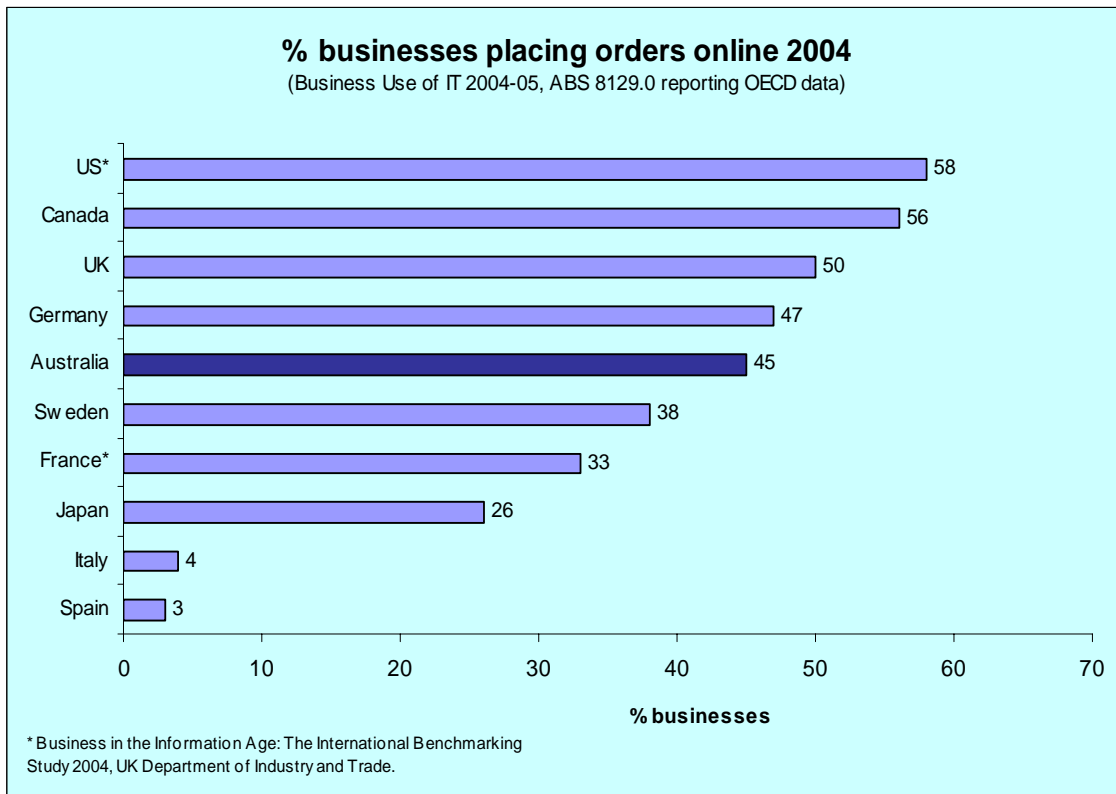


16. Percentage of businesses placing orders online

Score

IE INDEX	2006
US	58
Canada	56
UK	50
Germany	47
Australia	45
Sweden	38
France	33
Japan	26
Italy	4
Spain	3

The US, Canada, the UK and Australia are joined by Germany in the top rankings for this indicator, while Sweden (although still showing a reasonable level of participation with 38 per cent of businesses placing orders online) was not ranked amongst the leading countries in this case. Italy and Spain sit at the bottom of the rankings, with minimal percentages of 3 per cent and 4 per cent respectively, lagging by more than 20 percentage points behind Japan. This indicator measures an important aspect of e-commerce, as the volume of electronic processes between trading companies is higher than the business-to-consumer (B2C) component.



The value of e-commerce in Australia

According to the Australian Bureau of Statistics, the value of e-commerce activities in Australia increased from A\$9.4 billion in 2000-2001 to A\$39.6 billion in 2004-2005.

17. Number of secure servers per million inhabitants

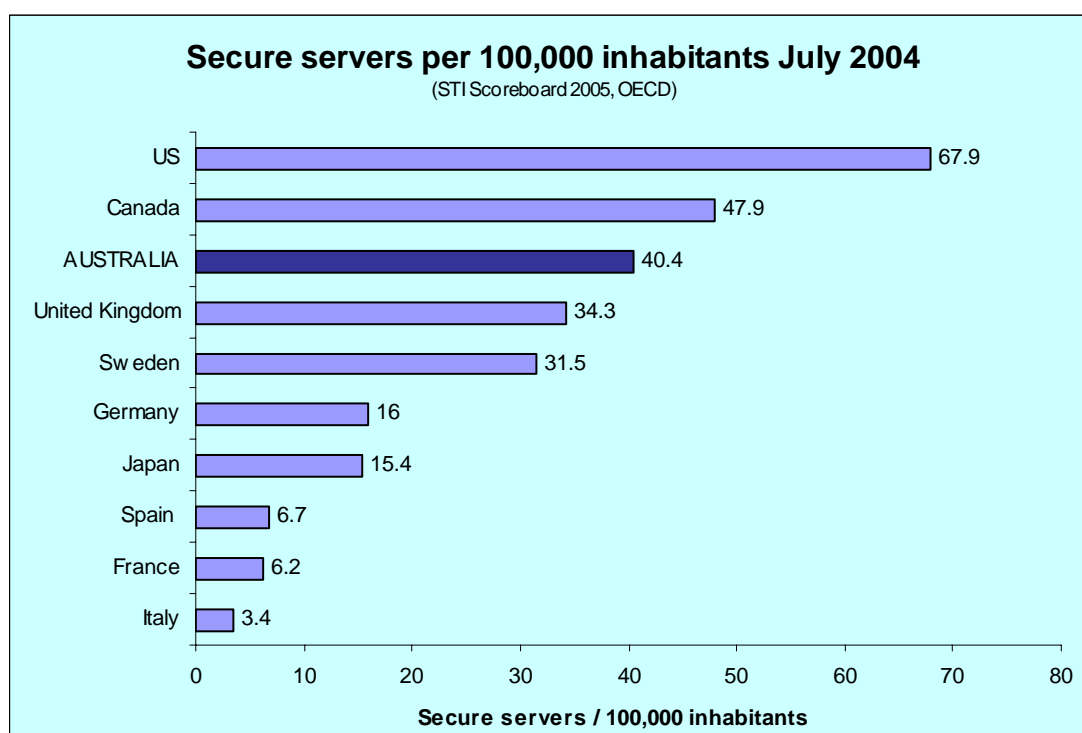
Score

IE INDEX	2006	2004	2003
US	100	100	100
Canada	71	66	66
Australia	59	64	66
UK	51	46	44
Sweden	46	37	45
Germany	24	26	28
Japan	23	15	14
Spain	10	9	9
France	9	11	11
Italy	5	5	7

A secure server is “a web server that supports any of the major security protocols, like SSL, that encrypt and decrypt messages to protect them against third party tampering. Making purchases from a secure web server ensures that a user’s payment or personal information can be translated into a secret code that’s difficult to crack. Major security protocols include SSL, SHTTP, PCT, and IPsec™. Secure servers, then, are essential infrastructure for information economy leading nations such as the US, Canada, Australia and Sweden where a growing

proportion of increasingly sophisticated Internet users engage in online activities requiring security and trust.

In July 2004 the US was the country with the highest number (67.9) of secure servers per 100,000 inhabitants, and accordingly is ranked 1st with 100 points. Canada maintains its ranking of 2nd ahead of Australia, which remains 3rd although with a lower number of servers than that recorded in the previous Index. Other countries also show a decrease in the number of secure servers including Germany, France and Italy. For an explanation of how points for this indicator are calculated, please refer to p. 6 of this Index.



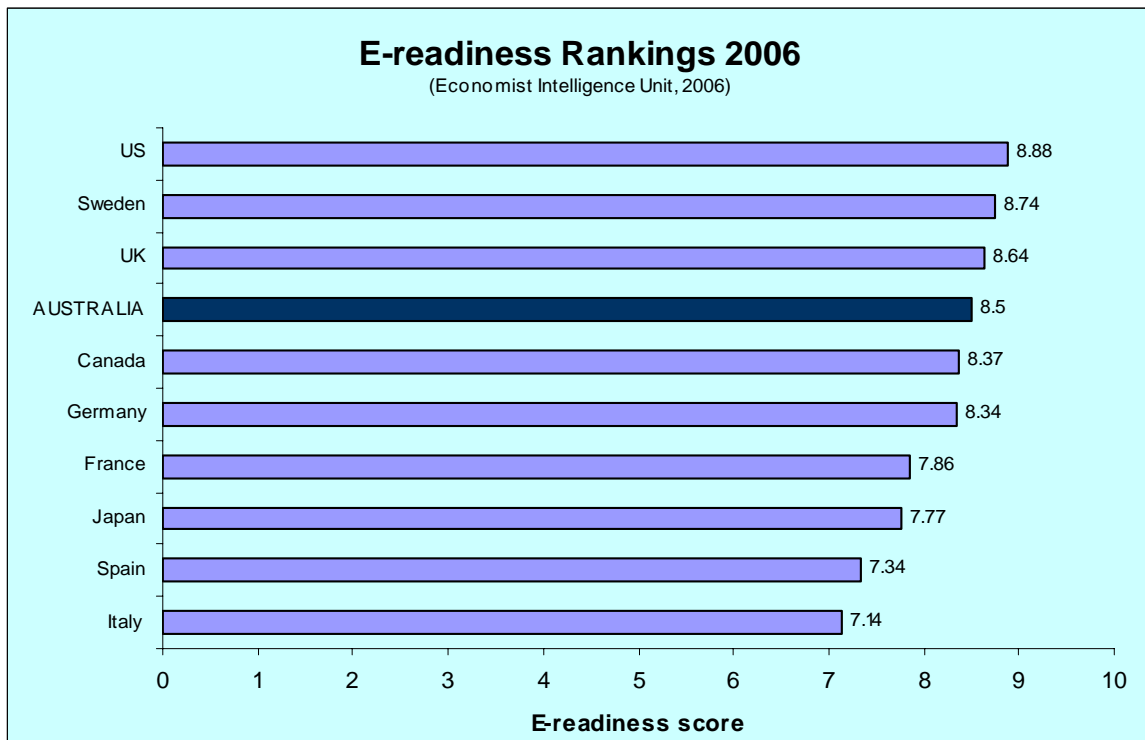
18. E-readiness rankings

Score

IE INDEX	2006	2004	2003
US	89	80	84
Sweden	87	83	86
UK	86	83	84
Australia	85	79	82
Canada	84	79	82
Germany	83	78	81
France	79	73	77
Japan	78	69	70
Spain	73	72	71
Italy	71	71	73

In the 2006 e-readiness Rankings, the Economist Intelligence Unit (EIU) assessed 68 countries on the basis of 6 categories of performance: connectivity, business environment, consumer and business adoption, legal and policy environment, social and cultural environment, and supporting e-services. According to the EIU, "e-readiness is the state of play of a country's information and communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit."^{vi}

Please note that the data presented here focuses on the ten countries benchmarked in the 2006 Information Economy Index. The overall e-readiness rankings, however, include other countries which, in some cases, received scores higher than the US, Sweden, the UK, Australia and the other Index countries. Denmark, for example, was ranked 1st in the EIU rankings ahead of the US with a score of 9.00, and Switzerland was ranked overall 3rd with a score of 8.81. For the purpose of this indicator, only the scores of the ten Index countries have been considered.



E-government

19. Penetration of online government services

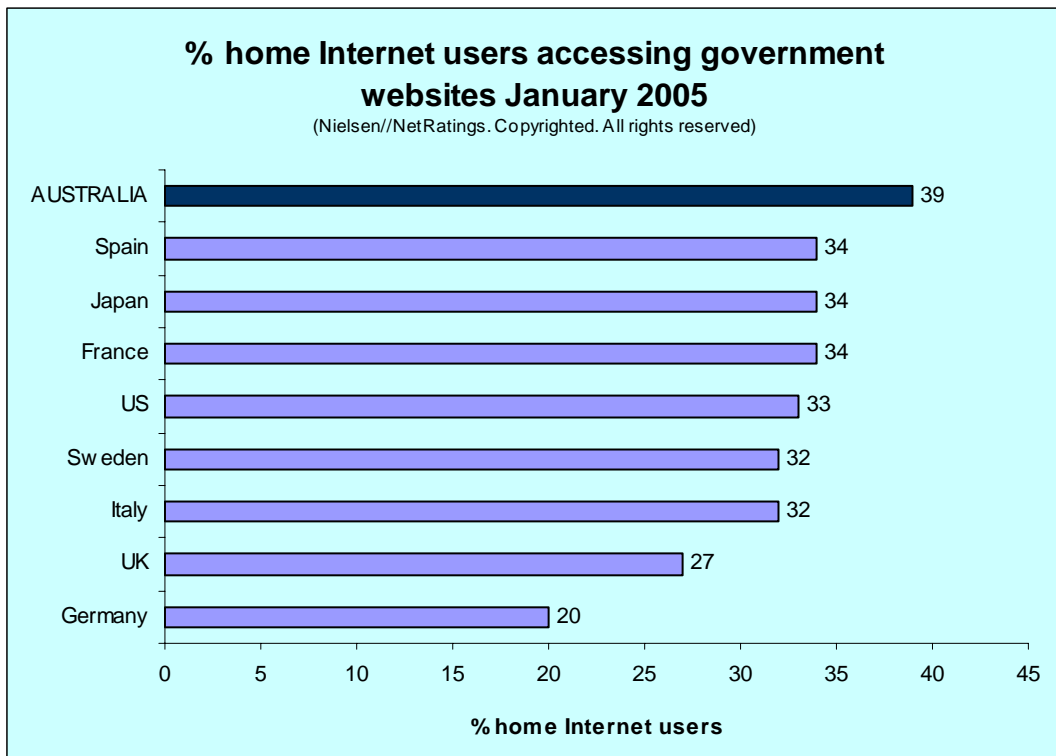
Score

IE INDEX	2006	2004	2003
Australia	39	36	32
Spain	34	33	20
Japan	34	24	19
France	34	30	23
US	33	22	18
Sweden	32	33	23
Italy	32	34	25
UK	27	22	11
Germany	20	16	8
Canada	n.a.	39	39

"ICT is a powerful tool for better policy, program and service delivery outcomes"^{vii}.

Promoting the value of ICT in terms of better delivery of programs and services has long been a feature of government policy in information economy leading countries, as the Internet provides a direct channel of access to government activities. As a result, percentages of home users accessing government websites have been growing steadily in the majority of the countries benchmarked with the exception of Sweden and Italy. Sweden and the UK,

which perform strongly in many other indicators, are ranked in lower positions in this case.



Trend for Australia overtime

The percentage of home Internet users in Australia accessing government websites has increased from 27 per cent in June 2002 to 39 per cent in January 2005.

20. E-government rankings

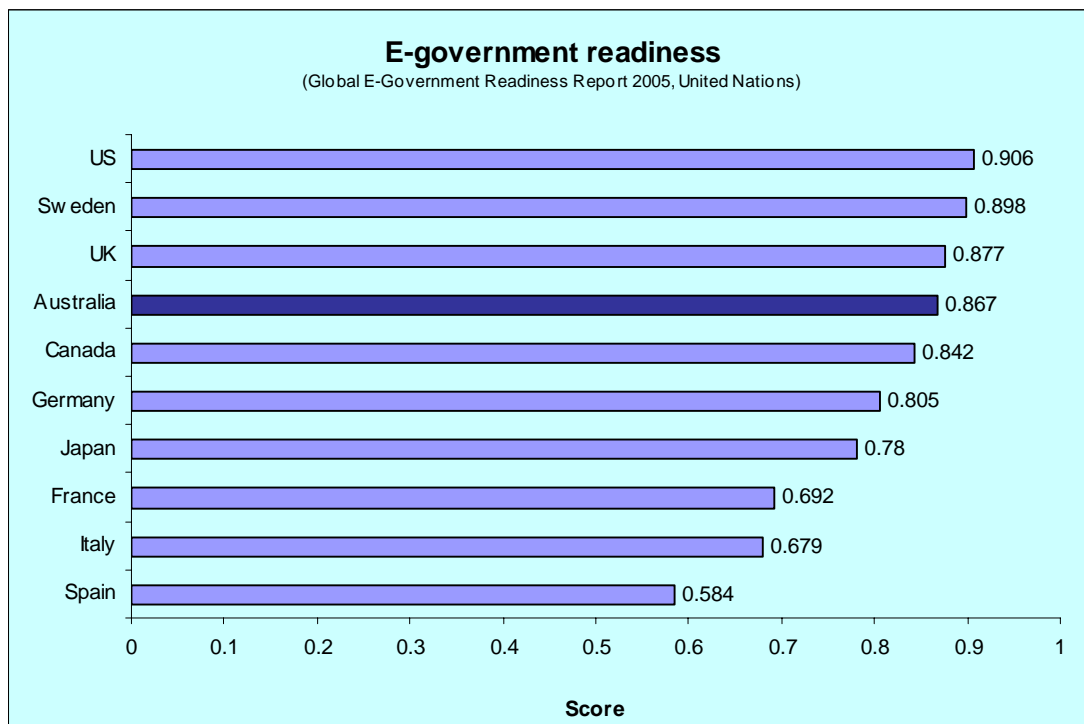
Score

IE INDEX	2006
US	91
Sweden	90
UK	88
Australia	87
Canada	84
Germany	81
Japan	78
France	69
Italy	68
Spain	58

The E-government Readiness Index presented in the UN Global E-government Readiness Report 2005 is the source of the data used for this indicator. The E-government Readiness Index *“is a composite measurement of the capacity and willingness of countries to use e-government for ICT-led development. Along with an assessment of the website development patterns in a country, the e-government readiness index incorporates the access characteristics, such as the infrastructure and educational levels, to reflect how a country is using information technologies to promote access and inclusion of its people.”^{viii}*

As for the e-readiness rankings (Indicator 18), the data presented here is relative to the 10 Index countries, while other countries such as Denmark (ranked overall 2nd in the e-government readiness index) and the Republic of Korea (overall 5th) have been ignored. Amongst the Index countries, the US is ranked the highest, followed by Sweden, the UK and Australia.

In the 2003 and 2004 Indexes, this indicator presented a composite score based on data sourced from two e-government reports, each published by the public and private sector. As in 2006 the data used was sourced uniquely from the UN, a comparison of scores between Indexes would not be meaningful and therefore 2003 and 2004 Index score are not included here.



Endnotes

ⁱ Department of Communications, Information Technology and the Arts, *The Current State of Play 2005* report, p.7

ⁱⁱ Department of Communications, Information Technology and the Arts *Information Economy Index 2004*, p.13,

ⁱⁱⁱ Purchasing Power Parities. "PPP are price relatives, which show the ratio of the prices in national currencies of the same goods or services in different countries", p.1, Purchasing Power Parities—measurement and uses, OECD Statistical Brief, March 2002.

^{iv} Department of Communications, Information Technology and the Arts, *Information Economy Index 2003*, p. 43

^v www.webopedia.com

^{vi} *2006 E-readiness Rankings Report*, Economist Intelligence Unit, p.1

^{vii} Department of Communications, Information Technology and the Arts, *Australia's Strategic Framework for the Information Economy 2004–2006*, p.30

^{viii} United Nations, *The Global E-government Readiness Report 2005*, p. 14