

Connectivity Scorecard 2011

Sweden



Sweden
7.84

	Score	Weight
Consumer Infrastructure	0.76 (0.95)*	0.11
Consumer Usage and Skills	0.75 (0.79)*	0.11
Business Infrastructure	0.77 (0.86)*	0.42
Business Usage and Skills	0.83 (0.83)*	0.25
Public sector Infrastructure	0.79 (0.79)*	0.08
Public sector Usage and Skills	0.77 (0.79)*	0.05

*The score of the leading performer for this component

Table 1: Component Scores & Weights 2011

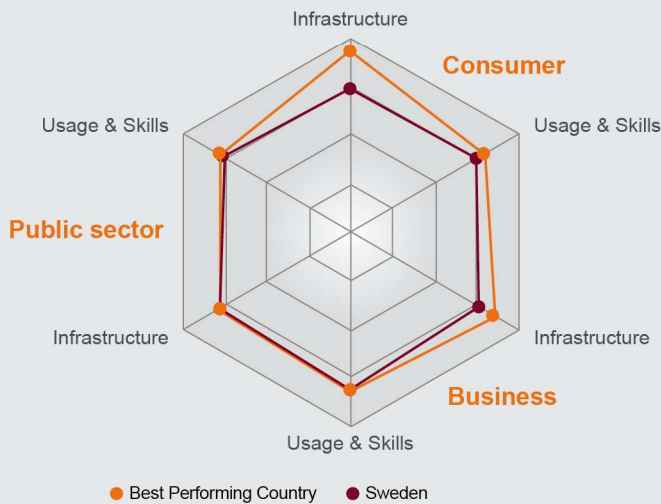


Fig 1: Component Scores 2011

Overview

Sweden scores 7.84 and retains its ranking of 1st amongst the innovation-driven¹ economies on the Connectivity Scorecard 2011 index. Sweden had also finished in 1st place with a score of 7.95 in 2010.

This year, the country is in a virtual draw for the lead with the United States, whereas last year there was some separation between the two countries. The reason for these developments is likely a combination of using new data, new weights for the six components of the Scorecard, and perhaps some catch-up by the United States.²

As was the case last year, and in all previous years, Sweden is a consistently strong performer in all areas with few weaknesses.

Strengths

Sweden scores highly in several aspects, so it is difficult to pick out specific aspects of excellence. Sweden's "unique user" wireless penetration rate is among the highest of all countries. Internet usage, as measured by the proportion of the population that uses the Internet, is among the highest in the world, as is the proportion of frequent internet users (those who use the internet almost daily or daily). Similarly, on business infrastructure and business usage metrics, Sweden is almost uniformly strong, but areas of special strength

¹ As defined by The World Economic Forum www.weforum.org

² One area in which there appears to be some catch-up is in measured broadband speeds prepared by Akamai. It seems as though the easier ability of cable operators to offer upgraded speeds (relative to telecom firms that might have to deploy fibre-to-the-home or fibre-to-the-node) may have a role in this, as some other countries with ubiquitous cable infrastructure also have advanced up the speed rankings.

include the stock of science and technology workers, cloud computing usage and the proportion of businesses with websites. Consistent with data on IT adoption in healthcare, the Swedish healthcare system spends more on ICT than healthcare sectors anywhere else.

Weaknesses

Sweden has no real weaknesses, but it must be said that average received Internet speeds lag well behind Asian countries. This is despite the fact that Sweden has more fibre subscribers than most other places in Europe—it should be noted that the Akamai measures of speed look at file transfer rates that are affected by more than just the last-mile infrastructure. So it is possible that networks are somewhat more congested than networks in Asia. Also, the share of 3G subscribers in all mobile subscribers is lower in Sweden than in Japan and Korea, as well as Singapore, Australia and New Zealand. Sweden gets a surprisingly moderate score on the e-Government Online Services component of the United Nations’ e-Government rankings. However, these “weaknesses” are all very relative and show no true pattern.

Conclusions

Sweden is a consistently strong performer with few weaknesses, and many strong points. This is borne out by its repeated high rankings on this and other composite indices of ICT performance. Further, Sweden is one of the countries in Europe where ICT investment compares relatively favourably to the United States. It is also characterized by a public-private approach to infrastructure deployment. Thus, for example, the City of Stockholm owns a dark-fibre network and leases out capacity to ISPs, which facilitates the provision of super-fast broadband in the city. Similarly, elsewhere in Sweden, similar public private models have been adopted to provide fibre-in-the-last mile based services. Of course, the feasibility of such approaches in countries with very different political economies from Sweden is not clear. But the larger point is that not only does Sweden have the right mix of skills, progressive attitudes to technology and innovation, and a sophisticated private sector, but it also has been pro-active in prioritising broadband and ICT deployment. The ICT upsurge in Sweden has been accompanied by a substantial revival of the country’s economic growth over the last fifteen years, a new Swedish miracle of sorts. Per capita GDP in Sweden

Rank [2010]	Country	Connectivity Score
1 [1]	Sweden	7.84
2 [2]	United States	7.82
3 [4]	Denmark	7.47
4 [5]	Netherlands	7.45
5 [3]	Norway	7.09
6 [8]	United Kingdom	7.06
7 [7]	Australia	6.93
8 [9]	Canada	6.88
9 [6]	Finland	6.78
10 [11]	Singapore	6.40
11 [15]	Belgium	6.31
12 [n/a]	Austria	6.27
13 [17]	Germany	6.27
14 [12]	Ireland	6.08
15 [18]	France	6.06
16 [10]	Japan	5.89
17 [16]	New Zealand	5.84
18 [13]	Korea	5.80
19 [20]	Spain	5.09
20 [19]	Czech Republic	4.93
21 [21]	Portugal	4.80
22 [22]	Italy	4.79
23 [23]	Hungary	4.50
24 [24]	Poland	4.26
25 [25]	Greece	4.22

*last year’s rank in parenthesis

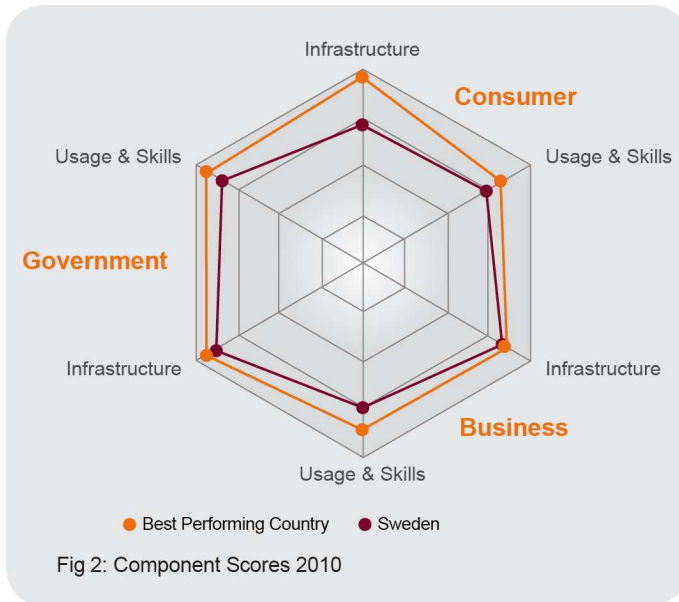
Table 2: Connectivity Scorecard 2011 Results – Innovation-driven Economies

has been climbing relative to the Western European average since the country recovered from a major financial crisis in the early 1990s.

2011 vs. 2010

Sweden’s score of 7.84 compares with 7.95 in 2010 and unchanged in top spot. Only a small proportion of the change in scores is due to the change in weights. Had we used last year’s weights this year.³, Sweden’s total score would have been 7.85, but interestingly, this would place it just behind the United States. Of some significance (although less than in most other countries) is the change in scorecard component scores, most notably in terms of consumer infrastructure and the government components of the scorecard.

³ For more information download the Connectivity Scorecard 2011 Report from www.connectivityscorecard.org



The change in most countries' consumer infrastructure performance is owing to the inclusion of three indicators which tend to equalize countries' performance. These three indicators are (a) fixed broadband coverage, (b) 3G coverage, and (c) unique user mobile penetration. On the first two indicators, most "innovation" nations have at least 80% to 85% of their population covered by wireless and fixed-line broadband networks. On the third metric, most nations have at least 60% of their population that owns a mobile device, but the proportion seldom, if ever, exceeds 95%. Thus this indicator shows only limited variation. Had we used the more conventional, but less merited, indicator of "SIM cards per 100 population" (which is how many agencies measure mobile penetration) there would be some more variation on the "mobile penetration" metric as some countries have SIM card penetration rates of 150 per 100 population or more.

The decrease in many countries' government or public sector scores is due to the inclusion of additional metrics on public sector or quasi-public-sector investments in IT hardware, software and IT services. These new metrics had the effect of creating additional dispersion in country scores, with some country scores on the "public" or "government" components falling substantially as a result of the inclusion of these metrics. However, Sweden did not experience much of a decline in its government/public sector scores. In these respects, it was one of the few countries that maintained its performance between 2010 and 2011.

The Connectivity Scorecard is based on comparative scores between countries, and, therefore, each country's performance is measured in relation to the best performing nation in each component at a given point of time. As with other indices of relative rankings, it is therefore hard to interpret the Scorecard in terms of absolute "improvements" or "deteriorations" and to make comparisons of scores over time.

About Connectivity Scorecard

The Connectivity Scorecard is a global ICT index which, unlike other available research, is the first of its kind to rank countries in terms of "useful connectivity". That is, not only on the deployment of ICT infrastructure but also to measure the extent to which consumers, businesses and the public sector "make use" of connectivity technologies to enhance social and economic prosperity. This "useful connectivity" is defined as the bundle of infrastructure, complementary skills, software and informed usage that makes ICT the key driver of productivity and economic growth.

Commissioned by Nokia Siemens Networks, the study was created by Professor Leonard Waverman, Dean, Haskayne School of Business, University of Calgary, and Fellow, London Business School. The study was conducted by the consulting firms Berkeley Research Group and Communiquea.

For more information on the Connectivity Scorecard, visit www.connectivityscorecard.org

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