



## Connectivity Scorecard 2010

Japan – strong performer but with inconsistent usage patterns

### Overview

A moderate score of 6.73 places Japan in 10<sup>th</sup> position among the innovation-driven economies<sup>1</sup> on the Connectivity Scorecard 2010. Maintaining its rank from last year, Japan’s performance is perhaps rather lower than one might expect given the country’s often-praised fixed and mobile broadband infrastructure.

With a high 3G penetration, Japan has all it takes to be a star performer. However, there are significant inconsistencies in usage patterns, average levels of broadband penetration, and services enabled by the internet and broadband tend to have a rather Eurocentric flavor. These factors prove to be stumbling blocks in capturing the country’s overall ICT development.

	Score	Weight
Consumer Infrastructure	0.77 (0.96)*	0.15
Consumer Usage & Skills	0.59 (0.82)*	0.15
Business Infrastructure	0.63 (0.86)*	0.28
Business Usage & Skills	0.68 (0.87)*	0.33
Government Infrastructure	0.75 (0.93)*	0.04
Government Usage & Skills	0.81 (0.93)*	0.05

\* The score of the leading performer for this component

Fig 1: Sub-category Scores and Weights 2010

### Strengths

Japan’s strength lies in its excellent consumer-facing infrastructure captured by the fact that it finishes first for 3G penetration— Japan was an early adopter of mobile data services, and Europe and North America have not yet come close to bridging the gap. Japan comes close to Korea’s top scores in consumer infrastructure, with the only exception being the parameters for fixed broadband, namely average download speeds and penetration rate of advanced broadband infrastructure. On the whole, the country is significantly ahead of most of the Western world in terms of access to, and adoption of, next-generation broadband infrastructure.

Japan performs well in the business usage and skills sub-category due to the fact that a very high proportion of the workforce comprises graduates or specialist researchers. The country also delivers an above-average performance on the government-related metrics<sup>2</sup>.

<sup>1</sup> As defined by the World Economic Forum

<sup>2</sup> While the “government infrastructure“ sub-category of the Scorecard measures a country’s performance on provision of e-government infrastructure, the “government usage and skills” sub-category looks at the usage of e-government services per capita.



## Weaknesses

Japan's consumer usage is its weak point, largely due to the fact that its performance on this front is affected by missing data. For example, there is relatively sparse information available on usage of mobile video messaging services – where Japan is a clear leader – and rather more data available on SMS usage, which is known to have never really taken off in Japan. Similarly, broadband penetration at the household level may fail to capture the possibility that unlike in other countries where mobile network performance is more inconsistent, Japan may actually have the infrastructure that can support full-blown substitution of fixed and mobile broadband offerings.

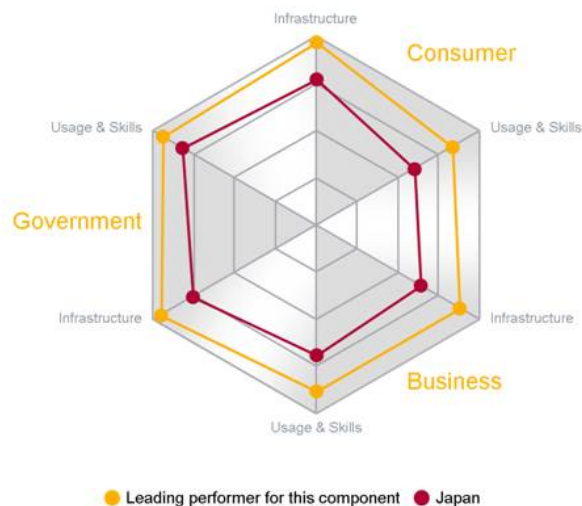


Fig 2: Sub-category Scores 2010

However, we estimate that Japan has a proportion of frequent internet users similar to that of countries such as the US or Canada. We also estimate that Japan has a relatively high share of adults using internet banking services. Against this, voice services usage is rather low, and unfortunately, there is a lack of robust information on usage of mobile data services.

Japan's performance in the business infrastructure sub-category is also not quite as strong as one might expect. For instance, penetration of secure internet servers is somewhat low, which is especially striking, since compared to other nations, a lot of Japan's internet traffic would be directed to Japanese sites and not international sites. Although Japan receives a score of 0.8 (on a relative scale of 0 to 1) for "business broadband uptake", this reflects the fact that in most OECD countries, business adoption of broadband services is very high, producing a high average score on this metric. While Japan does receive high marks for relatively strong deployment of next-generation enterprise infrastructures such as Ethernet, surprisingly, aggregate ICT investment by Japanese businesses is modest, although this may reflect dramatic differences between big sophisticated Japanese businesses and small and medium businesses.

## Conclusions

Japan is driven by a certain uniqueness and complexity in its market – with the result that it does not figure in the league of a high performing country. In Japan's case, rather than emphasizing trends over time, we would emphasize the fact that comparable data for the country, particularly on "usage" metrics, is difficult to obtain, thus requiring us to estimate data in some cases.

Comparative data for categories in which one might expect Japan to be a leader such as mobile data services are particularly hard to obtain. For instance, Nielsen produces data on mobile Internet usage that sometimes do not cover Japan. As a result, Japan's true performance may be stronger than suggested by its 10<sup>th</sup> position on this year's Scorecard. That said, there are likely to be significant issues related to SME adoption of ICT in Japan, although detailed data on this issue is lacking.



### 2010 compared to 2009

The Connectivity Scorecard is based on comparative scores of countries, and, therefore, each country's performance is measured in relation to the best performing nation in each segment 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.

Added to this, a number of changes were made to the indicators in the 2010 version of the Scorecard to reflect the changes in technology and to more precisely capture "real-world" data. The Akamai data<sup>3</sup> on actual broadband speed was used this year rather than measures such as "fastest advertised speed by the incumbent" used in the previous edition of the Scorecard. Akamai is a leading provider of cached content with servers located all over the world and its metrics capture not just the 'speed' that is measured in other speed tests, but also additional factors, such as congestion in the network, that affect the user experience.

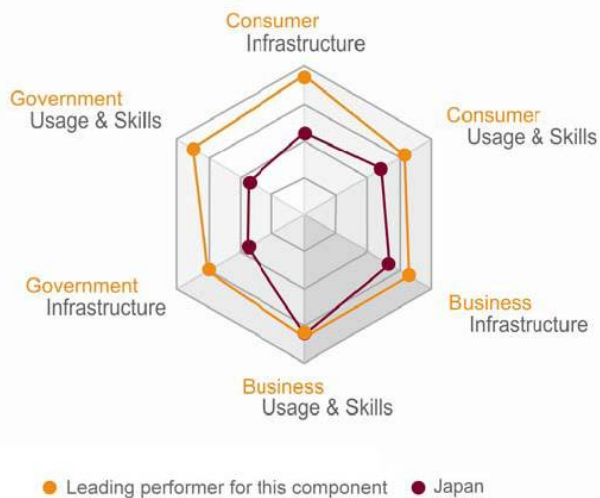


Fig 3: Sub-category Scores 2009

In addition, the UN E-Government Readiness Index was used to measure countries' performance in the government category, rather than the Brookings Institution E-Government measures that was used last year. New metrics were also incorporated from the Economist Intelligence Unit.

### 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, it not only captures the deployment of ICT infrastructure, but also the extent to which governments, businesses and consumers "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 under Professor Waverman's direction by international economic consulting firm LECG.

For more information on the Connectivity Scorecard, visit [www.connectivityscorecard.org](http://www.connectivityscorecard.org)

<sup>3</sup> Akamai State of the Internet report is available at <http://www.akamai.com/stateoftheinternet/>



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