
Country Report: Pakistan

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Pakistan Connectivity Score 2.09

1 Overview

Pakistan finishes 25th out of 26 in the Resource and efficiency-driven economies¹ category, with a score of 2.09 retaining its position from last year. Pakistan's overall performance mirrors its scores on most human development indices. The challenges that obstruct the country's telecom growth are the same as the hurdles obstructing its socio-economic growth. However, one hurdle is about to be removed as 3G/4G spectrum licenses were awarded and services have started to be offered in the country. In this report we focus on results and key findings from Connectivity Scorecard research.

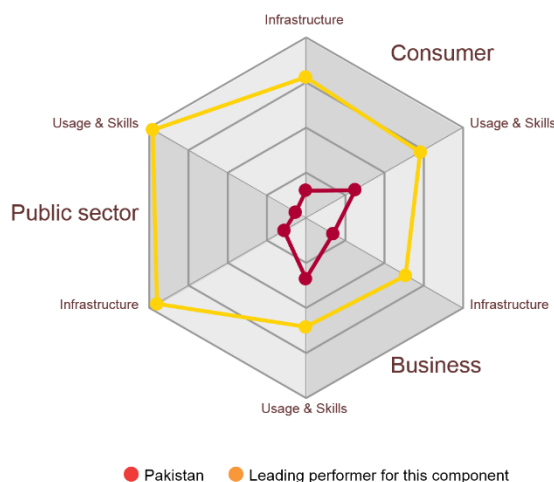


Figure 1: Component scores for Pakistan

2 Connectivity Scorecard 2013 results

Russia claims the top spot over Malaysia and Saudi Arabia on the 2013 Connectivity Scorecard (see Table 1). Russia's score is 6.04 while average in resource & efficiency category is 3.86. Every year we have revisited and revised the list of indicators used in the study. And, in 2013, the focus shifted more towards mobility and mobile broadband, which, although it played a role in Russia becoming the top performer, it was not the only reason.

Russia is top performer in the Business usage & skills subcomponent, with a score of 0.60. Russia is also the top performer in both the Public sector infrastructure and Public sector usage & skills subcomponents, with scores of 0.95 and 0.97, respectively. Saudi Arabia is the leader in the Business infrastructure subcomponent, with a score of 0.63. Russia is the leading nation in Consumer infrastructure, with a score of 0.78 and Lebanon is the top performer in Consumer usage & skills, with a score of 0.73. Scale is from 0 to 1.

Even though Russia is the leader in four subcomponents, it leads by only a slight margin. Next year, the order may change, which is why continued investments in ICT infrastructure, applications and services, and education are crucial.

According to the World Economic Forum, Pakistan is a factor-driven economy with a nominal GDP per capita (PPP) of just less than USD 5,000, so it is no big surprise that the country performs in the bottom of the ranking on the Connectivity Scorecard. The correlation between GDP per capita and the Connectivity Score is 0.84 in Resource & Efficiency economies. This is a strong correlation (See Figure 2 below).

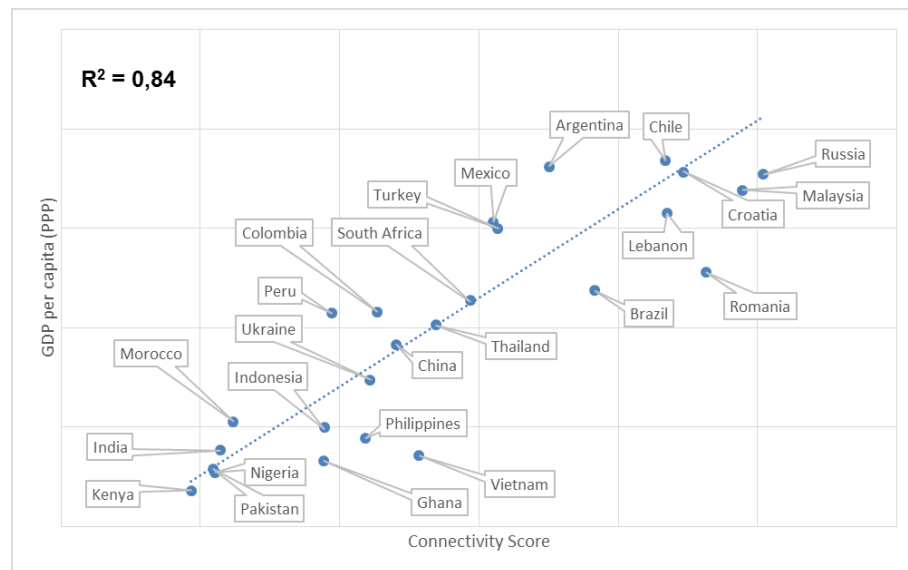


Figure 2: Correlation between connectivity score and nominal GDP per capita (PPP)

Rank 2013	Rank 2012	Country	Connectivity Score
1	[3]	Russia	6.04
2	[2]	Malaysia	5.89
3	[1]	Saudi Arabia	5.63
4	[n/a]	Romania	5.63
5	[n/a]	Croatia	5.47
6	7	Lebanon	5.35
7	[n/a]	Chile	5.34
8	[4]	Brazil	4.83
9	[6]	Argentina	4.50
10	[5]	Turkey	4.13
11	[7]	Mexico	4.10
12	[8]	South Africa	3.94
13	[10]	Thailand	3.69
14	[16]	Vietnam	3.57
15	[18]	China	3.40
16	[11]	Colombia	3.27
17	[9]	Ukraine	3.22
18	[15]	Philippines	3.18
19	[12]	Peru	2.94
20	[19]	Indonesia	2.89
21	[24]	Ghana	2.88
22	[17]	Morocco	2.24
23	[23]	India	2.14
24	[22]	Nigeria	2.11
25	[25]	Pakistan	2.09
26	[21]	Kenya	1.94

Table 1: Resource & Efficiency category results in 2013 (scale is from 0 to 10)

Latin American countries continue to perform well on the 2013 Connectivity Scorecard. Although they have been affected by economic challenges, they still manage to make the top half of the ranking list, as they have every year since the 2008 Connectivity Scorecard. Colombia and Peru had little dip in ranking but it is no new phenomena for these countries. They have been jumping few notch up and down every year.

There are no big surprises in ranking changes from the previous year. The new focus on mobility and mobile broadband compared to previous year had some minor impact, while updated national account data also had a slight effect on weighting. Perhaps what is most remarkable is where each country is in their recovery process from the 2008 economic downturn and how they have gotten back on track towards social and economic prosperity.

China moved up three places to 15th, while India remained in 23rd place, which is where they were last year. This is due to the fact that these countries are still relatively poor (at least in terms of nominal GDP per capita) and that ICT distribution is still very uneven in these countries. That said, there is a very substantial gap between China and India in terms of ICT adoption and usage.

3 Results for Pakistan

Connectivity Scorecard has three components - consumer, business and public sector - that are all divided into two - infrastructure and usage & skills. This makes total of six subcomponents. Each subcomponent score for Pakistan and its weight can be seen in Table 2. The scale of scores is from 0 to 1. In theory if one country would be number one in all indicators in subcomponent area, it would get the score of 1.0. Weight figures do not add up to 1.00 due to rounding.

The biggest weight 48 % falls into business infrastructure. Second biggest are consumer subcomponents' weights 20 % each. Pakistan performs best in business usage & skills area with score of 0.33 but unfortunately the weight for this is only 9 %. Remarkable pattern for the country is higher scores in usage & skills compared to infrastructure ones. This usually means affordable services and good skills level. Also it means in many case good quality of telecom networks.

	Score	Weight
Consumer Infrastructure	0.15 (0.78)*	0.20
Consumer Usage & Skills	0.31 (0.73)*	0.20
Business Infrastructure	0.17 (0.63)*	0.48
Business Usage & Skills	0.33 (0.60)*	0.09
Public Sector Infrastructure	0.14 (0.95)*	0.03
Public Sector Usage & Skills	0.07 (0.97)*	0.01

*Top performer score for this subcomponent

Table 2: Component scores and weight for Pakistan

4 Strengths

The increasing proportion of Pakistan's working-age population provides the country with a potential demographic dividend but also with the critical challenge to provide adequate services and increase employment. Economic studies have shown that there is a positive relationship between broadband penetration and GDP growth in both high and low income countries. Estimates of the impact of a ten percentage point increase in broadband penetration on GDP growth rates range from 0.1-1.5 percentage points, with higher impacts found in lower income countries².

When looking at all metrics for Pakistan, the country is performing the best in mobile messaging indicator where it ranks 4th among 26 countries. Usually younger people are heavy messaging application users. This is promising for 3G/4G services uptake as early adopters are eagerly waiting for getting their hands on to new applications and services.

Also both fixed and mobile voice usage are on or above average in sample group of countries. Interesting metric is mobile broadband speeds³ and there Pakistan scores 11th in the Resource & Efficiency group of countries. This seemingly high speed usually means quality mobile networks which is the case in the country.

From business perspective the penetration rate of mobile enterprise data is only slightly below average but still ranks 15th in the sample group of 26 countries. Businesses have adopted mobile way of working and new high speed mobile broadband networks will strengthen even further this development. Digitalization changes the way firms do business and creates new innovative business opportunities.

ICT services proportion of total services export is one metric in business usage & skills subcomponent. Pakistan ranks 10th with well above average score. This important ICT services metric is strong example of Pakistan's capabilities. What is needed to keep on good development is additional international Internet capacity and high speed broadband networks on country level. The latter is one is in good hands with new 3G/4G rollouts. ICT services industry can address key development challenges by increasing productivity and exports, and promoting social inclusion.

5 Areas for improvement

Modern day world is the connected one. Connectivity has become as paramount characteristic and yet there is only just over 40% of global adult population who uses Internet. On average per continent Internet user penetrations are 63 % in Europe, 28 % in Asia, 16 % in Africa and 56 % in Americas. In Pakistan there is 10% of Internet user penetration. This leaves great room for improvement and potential mobile Internet customers are waiting for services.

Consumer infrastructure subcomponent includes a percentage of households with Internet metric. Pakistan's measure in it is 10 % being well below average amongst the 26 countries. With affordable mobile broadband offer this penetration figure is going to increase significantly in next few years. Percentage of households with computer in Pakistan is close to 13 % according to ITU.

Pakistan ranks 156th (out of 190) in UN e-Government survey index. Public Sector indicator rankings for Pakistan ranges from 17th to 21st. With increased broadband and Internet user penetration it is easier to introduce new e-government services for both consumers and businesses. In UN e-Government survey⁴ there are four stages in online services: emerging, enhanced, transactional and connected. Pakistan scores 83 %, 45 %, 6 % and 35 % in those stages, respectively. Third stage has the biggest room for improvement and it is also related to ICT usage in business-to-business transactions promotion. ICT usage in business-to-business is one metric in business usage & skills subcomponent. There is a lot pressure put on mobile broadband connectivity and this also falls into that category. Government needs to make concerted efforts to exploit the full potential of social media to deliver messages and information services, promote awareness for greater citizen e-service take-up, and garner valuable user feedback and suggestions for service improvements. This implies that government needs to leverage social media for greater e-government service usage by citizens, including in particular, the poor, the elderly and other disadvantaged groups. As social media become widespread and mainstream, the strategic engagement of all groups in this new e-service usage channel becomes even more important.

The net enrollment rates in education have been increasing in Pakistan but still lag behind other South Asia countries. Pakistan has some of the worst education related indicators globally. Country's spending on education is very low, and has decreased from 2.6 % to 2.3 % in last ten years⁵. Education is only the weapon by which one can fight and conquer the battle of life.

6 Country comparisons

Country performance pattern differs greatly between the countries in resource & efficiency category. This chapter includes few country comparisons and illustrates performance patterns and differences between the countries.

The best overall performer has consistently good score on each subcomponent. The wider the spider the better. Orange line in spider charts represents the leading performer results.

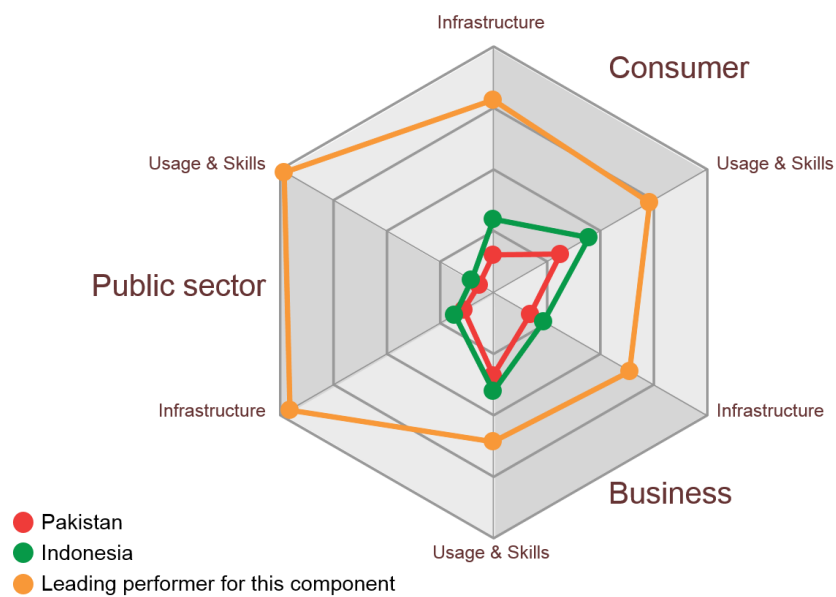


Figure 3: Comparing Pakistan and Indonesia performance

Pakistan's connectivity score is 2.09 and Indonesia's 2.89. Pattern of performance is very similar and differences are small (See Figure 3). Both Pakistan and Indonesia have clearly the biggest weight on business infrastructure subcomponent and the connectivity score gap comes almost entirely from that difference in subcomponent scores. One indicator in business infrastructure is Number of secure Internet servers. Pakistan scores the lowest in the peer group of countries. This particular metric indicates how many companies conduct encrypted transactions over the Internet. The quality of an economy's infrastructure, including power and communications, is an important element in investment decisions for both domestic and foreign investors. Government effort alone is not enough to meet the need for investments in modern infrastructure; public-private partnerships, especially those involving local providers and financiers, are critical for lowering costs and delivering value for money. In telecommunications, competition in the marketplace, along with sound regulation,

is lowering costs, improving quality, and easing access to services. Indonesia on the other hand have four times the number of secure Internet servers than Pakistan.

Another metric in business infrastructure subcomponent is International Internet bandwidth. Here Pakistan scores a bit better being 22nd but still Indonesia has two times more international Internet capacity. These findings suggest business sector in Pakistan must focus on server and connectivity capacity. This said, better national level connectivity through 3G/4G mobile broadband will increase the demand also from consumer side. Backbone capacity increase is priority in coming years. Indeed, it is important to continue increasing international connectivity capacity and rely on redundant connections.

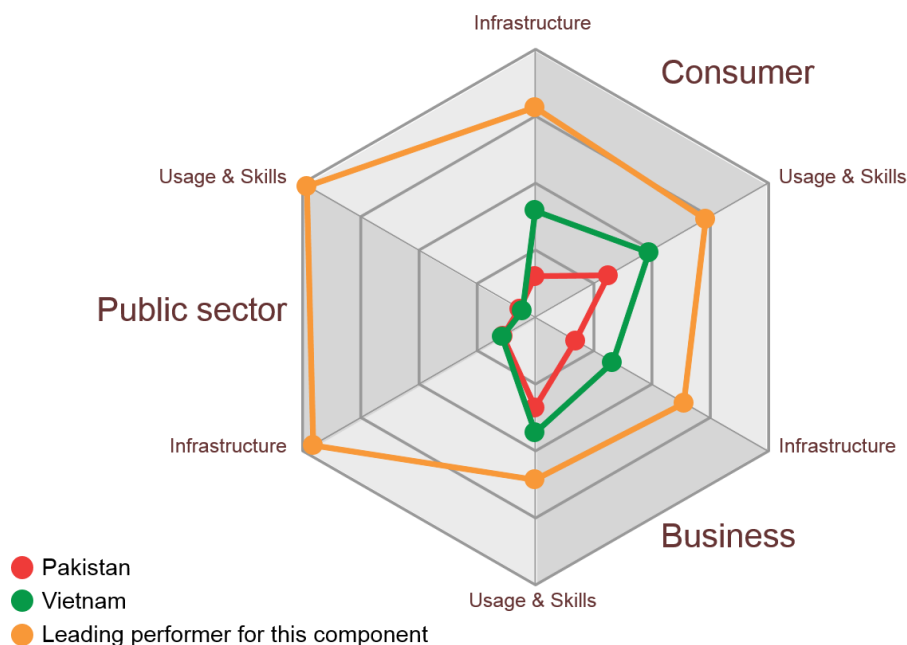


Figure 4: Comparing Pakistan and Vietnam performance

Comparison between Pakistan and Vietnam is somewhat interesting. Vietnam’s Connectivity score is 3.57, much better than Pakistan. Figure 4 illustrates performance patterns for both countries. Clearly consumer sector in Vietnam has better results. Consumer infrastructure and usage & skills scores for Pakistan are 0.15 and 0.31. And for Vietnam 0.40 and 0.48 respectively. Connectivity Scorecard 2013 focus is on mobility and mobile broadband which also reflects to indicator selection. The main reason behind score difference is lack of 3G/4G services in Pakistan while Vietnam has enjoyed them since 2010. It’s is possible that Pakistan climbs several notches in ranking in coming years but it will mean successful launch and rollout of 3G/4G services. Consumer sector performance rise is typically coming first as consumers are rapid adaptors of new services and technologies. Business sector will follow but with delay.

Vietnam’s business infrastructure weight is 68% and is the biggest for the country. Weight in Connectivity Scorecard indicates also economic importance as it reflects how big portion of total Gross Domestic Product (GDP) comes from particular subcomponent area. In Vietnam all kind of different video services⁶ enabled by 3G networks have been extremely popular. This service success of course requires critical mass of users. With traditional Value Added Services (VAS) like text messaging and multimedia messaging the critical penetration point has been around 15 – 20 %. After that point penetration has rose like a rocket.

As already said the business sector follows consumer success. With enhanced mobile data connectivity and speed, firms can enjoy totally new ways of doing business. Not only mobile enterprise data connectivity enabling messaging but also interacting between businesses in selling, purchasing and ordering. In Vietnam firms have started to use cutting-edge services and reliable Internet connectivity. The hot discussion topic at the moment in Vietnam is 3G price hike. Service Providers have increased price plans with average of 20 percent and this has slowed down progress. Resent research by Tefficient revealed the fact that strongest driver of mobile broadband success is the price of Mb. Overprice the mobile data plans and you will kill the market. Solution is to offer unlimited data plans or big enough limit plans. Another strong driver for mobile broadband success is Data-only SIMs. This will compete with fixed broadband service but also offer business data connectivity to firms. Critical for success in Pakistan will be price sensitivity and avoid the same situation than in Vietnam in slowing market growth.

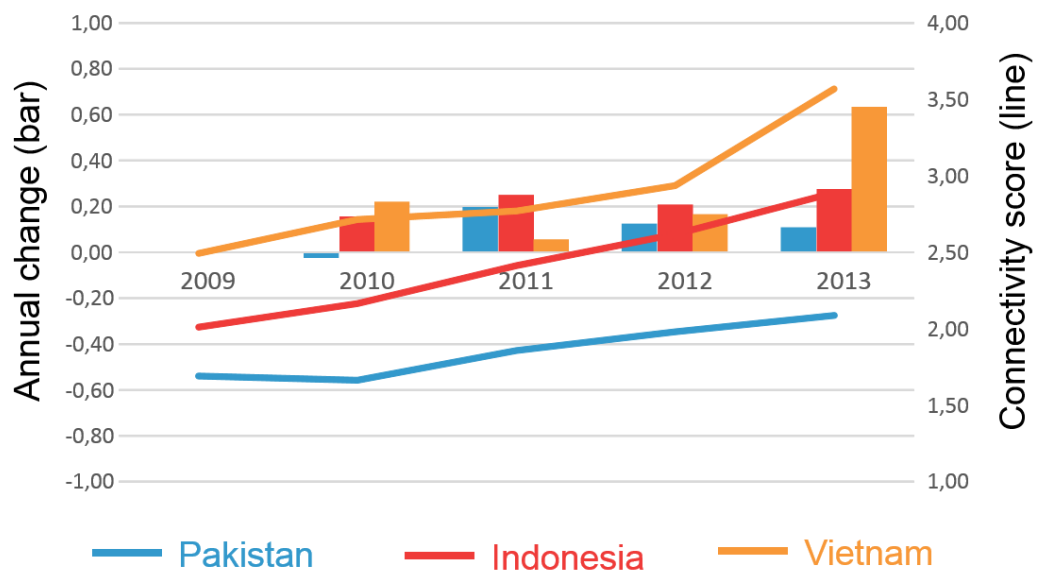


Figure 5: Comparing Pakistan, Indonesia and Vietnam over five years period

When comparing Pakistan, Indonesia and Vietnam over five year period, you can see from Figure 5, Vietnam’s connectivity score has been in rise over the whole period. Interesting point is that 3G licenses were awarded in 2009 and services

started during 2010. Impact to economy has been relatively bigger in Vietnam compared to Indonesia. However, development in Pakistan has also been positive last few years but not in the same magnitude. Mobile broadband subscriber and other 3G VAS services user base has surged during last four years. Extremely popular in Vietnam have been various video services. Indonesia's steady performance over the last five year period reflects the fact it got 3G services already in 2005.

In Pakistan the key is mobile broadband development. And especially quality of the service as it draws more users, applications and usage. Coverage and affordability are not hindering mobile broadband spread. Improved productivity – more efficient business processes; lower costs of accessing suppliers/wholesale markets as a result of improved interaction and coordination among market agents. Businesses are no longer local but regional, national and even global.

For example, in Indonesia between 2006 and 2011, e-commerce grew by 56% annually on average⁷. In addition, with the availability of mobile broadband beyond Jakarta, opportunities are opening up for online retail transactions. One relatively new entrant into the Indonesian e-commerce market, Rakuten reported that its sales outside of Jakarta rose from 10% to 45% of total sales between June 2011 and November 2012.

For employees mobile broadband brings greater employment opportunities – better search and matching in the labor market and greater flexibility as result of teleworking.

7 Conclusions

In every country of the world, the 15-24 year olds are more likely to be Internet users, suggesting that the young are drivers of the information society. In most of the world's least developed countries, young people are nearly three times more likely than the general population to be using the Internet. Recent polls indicate Pakistan to get 12 to 14 million 3G users in next two years. Majority of these early adopters will be especially young people who use their phones for Internet browsing, OTT applications like Skype, Whatsapp, etc.

Pakistan ranks 111th (out of 148) in World Economic Forum Networked Readiness index⁸. Highlights for Pakistan in the study are in areas like business and innovation environment and affordability. This means the country have all required pieces for success. Differences across countries in the conditions under which innovation can occur affect their capacity to fully take advantage of the existing infrastructure. Efforts to continue bettering these conditions for innovation will be key to reducing this new digital divide going forward. Mobile broadband is key ingredient will help in these efforts.

Pakistan ranks 133th (out of 148) in World Economic Forum Competitiveness index⁹. The country performs in the ranking comparatively better in the more advanced areas like financial development, business sophistication and in innovation.

These similar to Connectivity Scorecard composite indexes are highlighting the same strengths although measuring things from a bit different angle. More detailed discussion about strengths was carried out in chapter 4.

Pakistan economy is more services driven (almost 60% of GDP composition) and with enhanced ICT infrastructure, trend will continue to be even more towards services.

The International Internet bandwidth bits per capita indicator has become increasingly important. And not only capacity but also redundant connectivity. Everything and everyone are connected nowadays, and will be even more so in the future.

8 About the Connectivity Scorecard and Useful Connectivity

The Connectivity Scorecard is a tool for ranking countries, according to a measure of what we call “useful connectivity”. “Useful connectivity” or “usefully connected” are phrases that we use often in these reports and our presentation materials. They refer to the ability of connectivity to contribute to economic growth, especially through improvements in productivity, which are widely considered to be the key to sustained economic prosperity. The concept of “useful connectivity” is first and foremost an attempt to recognize that the economic value generated by connectivity depends not just on conventional measures such as broadband lines or computers connected, but also on who is using those lines — businesses or consumers — and how well they are able to use the lines (captured by measures such as user skills, software assets, use and frequency of use of particular technologies such as the Internet, corporate data services, mobile data services and the like).

The Scorecard aims to measure “useful connectivity” by making a link between connectivity and economic performance. We next explain how this linkage is made.

The Connectivity Scorecard methodology:

- Divides the economy into the consumer sector, the business sector, and the public sector.
- Weights to the consumer sector, business sector and public sector in line with their importance to economic activity;
- Divides each of the consumer, business and public sector categories into “infrastructure” and “usage & skills” components and allocates individual measures to either of these two subcomponents.
- Weights “infrastructure” and “usage and skills”.

A wide range of individual measures/indicators were selected, reflecting elements of both infrastructure and usage.

For each component of the Connectivity Scorecard, countries are benchmarked against the best in class in their tier; thus if a country was best in all dimensions, it would score a maximum of 10.0. If a country scores a 5.0 for example, that means it is 50% of the best-in-class over all countries in its category.

The weighting of infrastructure and usage & skills components was based upon economic considerations and are unique in literature. First, the weights for each sector are country-specific and taken from national accounts. The weights for infrastructure versus usage & skills subcomponents used data from research into the sources of productivity enhancement.

In the 2013 Connectivity Scorecard, these weighting calculations were updated based on the latest available data. We have used the Conference Board's Total Economy database since 2011 and data on annual contributions to economic growth of ICT capital and improvements in labor composition. This update has only a minor impact, if any, on total connectivity scores, as we use a 10-year average.

The 2013 Connectivity Scorecard was conducted by consulting firm Rajala Consulting, in co-operation with Etlatiето¹⁰ and Aalto University in Helsinki, Finland.

More country information can be found at www.connectivityscorecard.org

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Endnotes

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

² Various references from ITU, OECD and World Bank to name few

³ Akamai State of the Internet reports

⁴ http://unpan3.un.org/egovkb/global_reports/12report.htm

⁵ UNESCO

⁶⁶ Video calls, karaoke, music videos, video services like Youtube to name few

⁷ <http://blogs.ft.com/beyond-brics/2012/11/12/indonesian-ecommerce-hots-up/#axzz2GwDdN4tl>

⁸ <http://www.weforum.org/reports/global-information-technology-report-2014>

⁹ <http://www.weforum.org/reports/global-competitiveness-report-2013-2014>

¹⁰ Subsidiary of ETLA, The Research Institute of the Finnish economy