



Connecting Africa to Digitalization and Economic Growth: an Empirical Assessment

ABSTRACT

CENTRO STUDI



With the patronage of



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Report TIM Study Centre

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Broadband contributed to the growth of GDP in Africa for a value of about 1,1 trillion US\$ in nearly 10 years

According to the TIM Study Centre, the spread of **broadband in Africa has generated a positive contribution of 1120 billion US dollars to the growth of Africa's GDP between 2010 and 2019**. The largest contributions were made to South Africa (US\$ 461 billion), Egypt (US\$ 263 billion), Nigeria (US\$ 204 billion), and Algeria (US\$ 158 billion). However, broadband has also made a significant contribution to all other countries: Angola 41 billion US dollars, Kenya 27.6 billion US dollars, Morocco 88 billion US dollars, Libya 88.5 billion US dollars, and Tunisia 48.8 billion US dollars. The estimation was carried out by applying the guidelines of ITU econometric model.

There are sound evidences of **the increase in employment: from 22,000 to 82,000 new people employed every 1,000,000 people (2,2-8,2%) in areas connected to a terrestrial fiber infrastructure**. This effect is higher for people living very near to the network (within 200 mt) or in urban areas, according to the international studies carried out in the last years.

Increased use of international connectivity generates GDP growth

Africa's international Internet bandwidth growth along an exponential curve, reaching 15.289 Tbps by December 2019.

An econometric analysis at regional level carried out by Centro Studi TIM has shown **strong correlation (0,78) between international connectivity per capita and economic GDP per capita and in 43 out of total 54 African countries**. In some specific countries (e.g. Algeria, Cameroon, Cote d'Ivoire) the correlation significantly exceeds 0.9 indicating a very strong association of the two trends.

Many recent researches and studies have found empirical evidence of the benefit activated by the arrival of subsea cables in Africa on GDP per capita growth: **each 10% increase in South Africa's International bandwidth consumption per use has led to a 0.15% increase in GDP per capita in the long period between 1995 and 2017**. Future investments in international bandwidth and connectivity could led to higher impact on Africa's GDP per capita, ranging from 0.42% to 0.58% in the first 2-3 years following the deployment of new infrastructure.

In sub-Saharan African countries, GDP growth is strongly correlated with the growth of ICT End User Spending

In the period 2009-2019 the GDP of Sub-Saharan Africa grew overall by 42.5%, in the same period the ICT end user spending at constant currency went from about 5 to about 11 billion US dollars.

An analysis at regional level carried out by Centro Studi TIM has shown **strong correlation (0,95) between Information Technology market and economic GDP sub-Saharan Africa (46 out of total 54 countries).**

Africa has about 1.34 billion inhabitants, the GDP is worth about \$ 2.35 trillion.

The digitalization of Africa is not homogeneous, some countries are very advanced others are making great progress: in 8 countries (Mauritius, Algeria, Morocco, Tunisia, Cabo Verde, Seychelles, Egypt and South Africa) the percentage of internet users is higher than the world average; in 2 countries (Seychelles and Mauritius) the rate of internet subscriptions per 100 inhabitants is much higher than the world average;

Only 14.3% of households have internet access at home, individuals who use the internet are 28.6% but the penetration of fixed broadband subscriptions is only 0.5%.

Mobile broadband penetration

Africa is a region with a greater propensity to use mobile network services, with mobile-cellular network coverage equal to almost 90% of the population (44,3% within reach of 4G mobile broadband signal)

Active mobile broadband subscriptions are 32.1% of inhabitants, while the world average is 75%, but in nine countries are above the world average, and in 17 Countries mobile cellular subscriptions are far more than 100% of inhabitants.

Northern Africa is the region with very high Mobile Broadband penetration (and a relevant Fixed Broadband penetration). In this region, countries have on average the highest GDP per capita, and all this results in the most important economic impact for Broadband across the Continent.

South Africa has the highest GDP per capita and Mobile Broadband penetration rate, and therefore the highest economic impact as a single country.