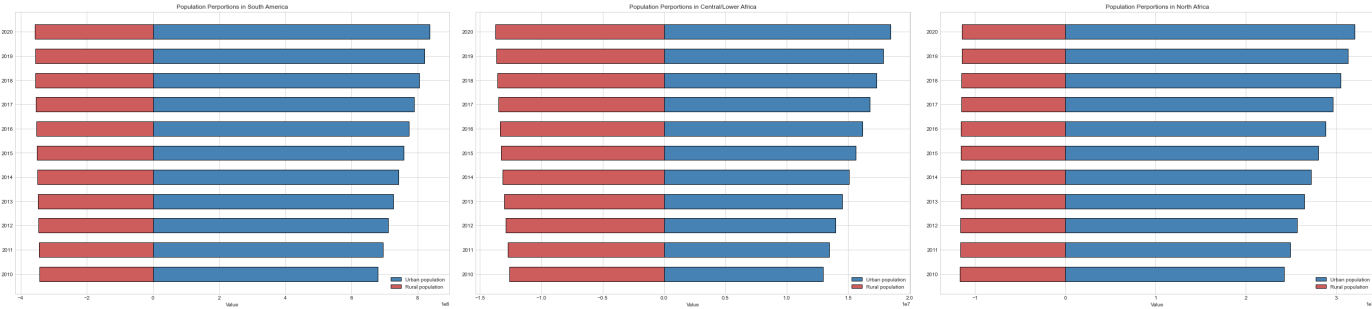


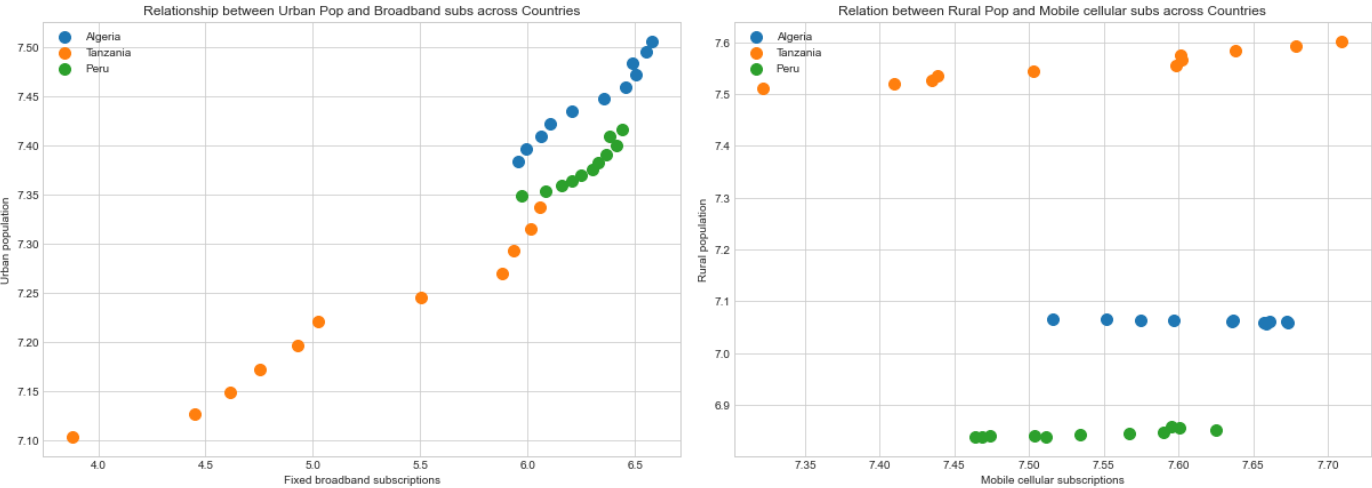
Digital Development Analysis of Developing Countries in Africa and South America



Explanation :

These 3 figures represents pyramid plots of the urban vs rural population development (2010-2020) in North African , Central African and south American Continent

- Overall We can see that throughout the 3 plots the urban population is increasing in far more quick velocity compared to the rural population that seems to be slow or constant while in Central/South African Countries it's more balanced compared to that asymmetrical pattern of south America and north Africa leaning more towards urbanism
- Rural areas often mirror poverty and limited resources, affecting digital progress due to reduced access to education and technology. Conversely, urban areas tend to be more resourceful, fostering digital development.



Explanation :

In this figure we have 2 scatter plots of 3 countries from South America (Peru) and Africa (Tanzania,Algeria) investigating the relationship between urbanism and broadband subscription (the plot on the left) and also ruralism with mobile cellular subscriptions (plot on the right)

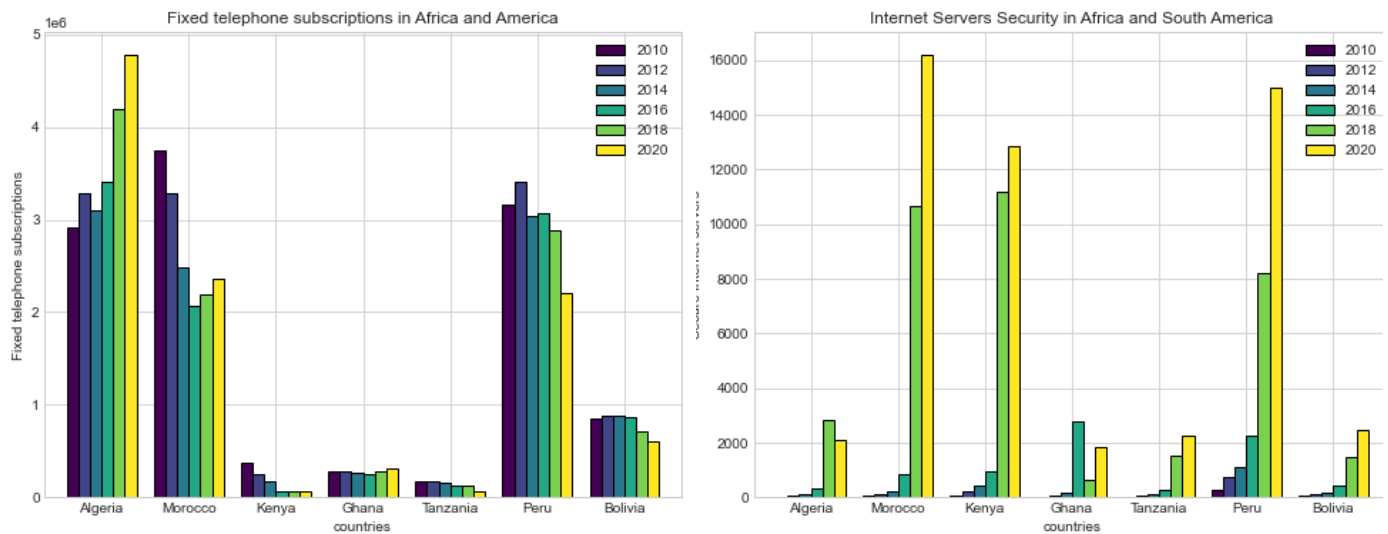
- The strong correlation between broadband and urban population is due to the infrastructure requirements, absent in rural areas. While the correlation between rural population and cellular mobile subscriptions is low, it underscores the ease of adopting cellular services without extensive infrastructure needs.
- Cellular mobile subscriptions may not be a good indicator of digital progress, as they are easily accessible even in rural areas. In contrast, broadband services, requiring more infrastructure, provide a more reliable measure of technological advancement.



Explanation :

This is a heat-map showing correlations between features in 2 countries from both continents

- There is a high positive correlation between ICT exports and GDP in Kenya compared to that of Peru which shows rather a negative correlation reflecting its Expenditure of GDP
- Access to electricity is high in both rural and urban population which means that it is not a very good indicator of digital development
- Peru is less prominent in digital products exports compared to Kenya which highlights its power in this section

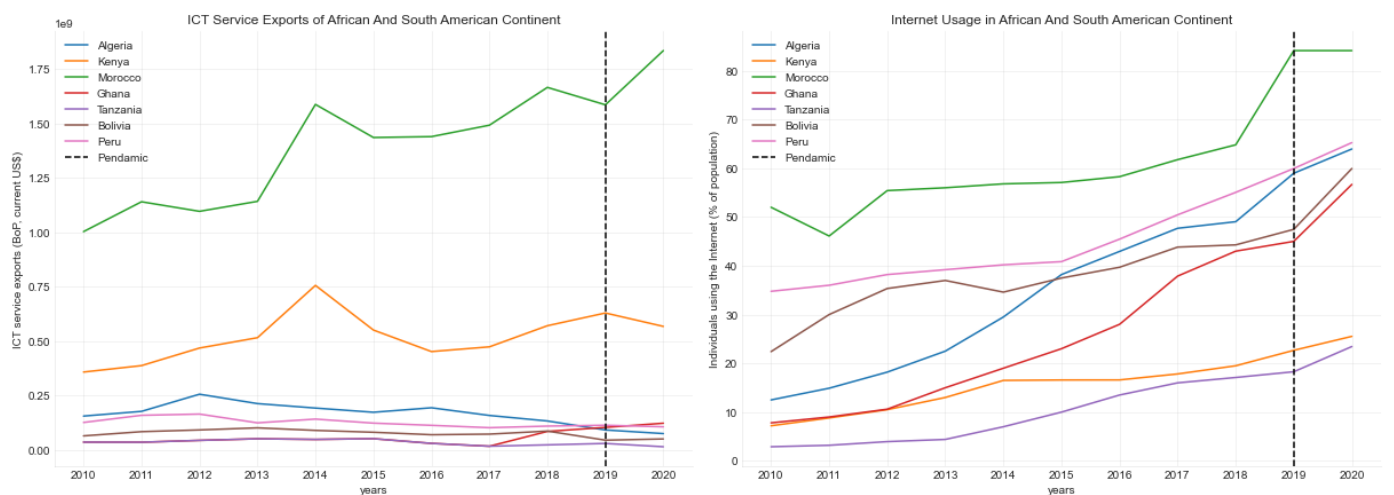


These two plots are bar plots which represents the telephone subs within different countries (plot on the left) , and internet security development within multiple countries every 2 years from 2010 to 2020 (plot on the right)

Explanation :

- In the left plot we can see that overall north African countries have the biggest subscription, then comes the south American and finally the Central/Low African countries . There is an overall trend of decrease in this service in opposition to Algeria which growing more reflecting its digital development in a negative way
- Secure internet servers shows a country's control over digital development , where morocco stands first followed by Kenya and Peru and then the other countries with very low Internet security

Fixed telephone subs is a very time-sensitive indicator since it used to indicate digital development earlier in time but now people are more switching toward mobile and faster services , which means it mirrors inability to keep-up with Digital progress pace



These two plots are line plots which represents the development of ICT (Information and Communication Technology) service exports within different countries , and internet usage progress in a 10-year period within multiple countries

Explanation :

There is an overall rising trends in both plots where :

- For the plot on the left , ICT exports are more commune in African countries lead by Morocco , Kenya and Algeria Followed by the south American countries which bottoms our plot with very low export rate of ICT
- on the right , Morocco continues leading the race with the most population using the internet (+80%) followed by Algeria and the South American Countries and then the rest of the African countries with lower rates
- After 2019 , the ICT exportation decreased comparably to the internet usage increase which is explainable due to the pandemic (COVID 19)

Conclusion

- In terms of digital technology , African Countries contribute more to the external digital development (exportation) compared to South American countries which shows more interior digital progress (internet coverage and security) , but that does not prevent some African countries (Morocco , Kenya ...etc) from surpassing them in that race

Overall , North African countries are more digitally developed than central / lower African countries