

10Alytics Global Hackathon 2023

UNRAVELLING THE CHALLENGES OF UNEMPLOYMENT IN AFRICA: A DATA- DRIVEN APPROACH

**By
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Overview of African's Unemployment Data

Population

1.39B

% Avg
Unemployment Rate

22.0 %

% Avg Education
Expenditure

14.7 %

% Access to Electricity

55.6%

Avg Strategy
Implementation Score

1.8

Number of LLC

33.65M

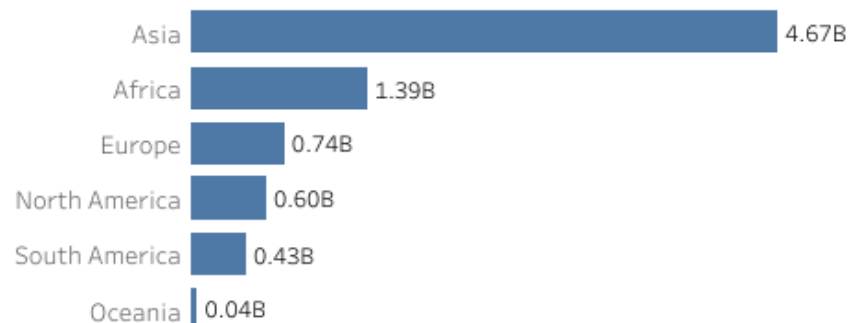
Avg Business Density

4.33K

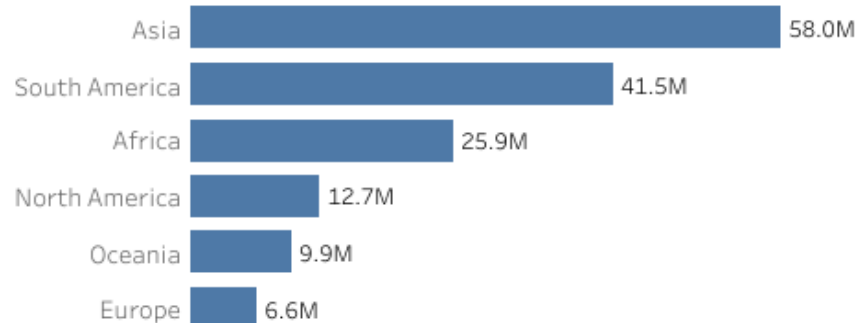
Avg Adult Population

25.9M

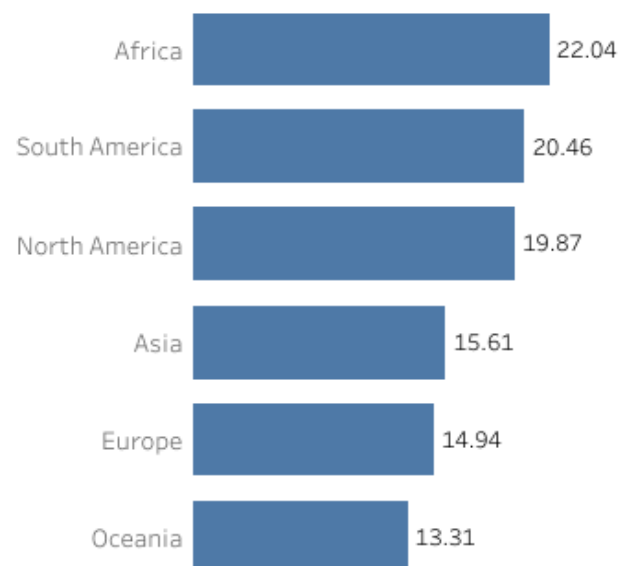
Continent and population (2021)



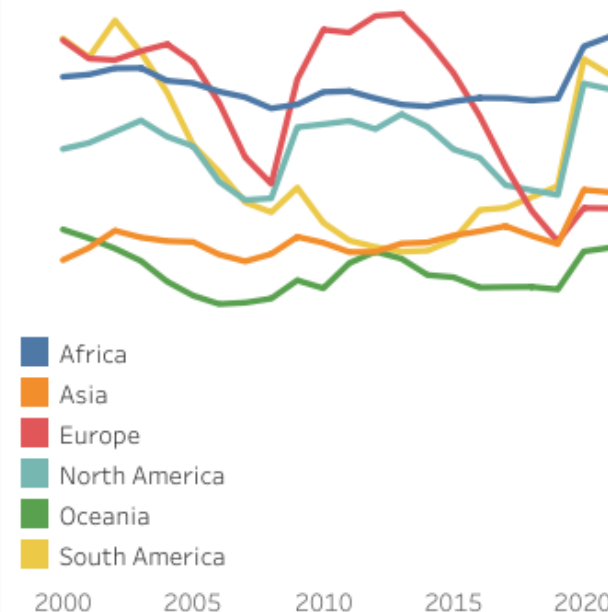
Continent and avg adult population (2020)



Continent and avg unemployment rate (2021)



Continent and unemployment rate trend



Overview of Factors Contributing to Unemployment in Africa

Population

1.39B

% Avg
Unemployment Rate

22.0 %

% Avg Education
Expenditure

14.7 %

% Access to Electricity

55.6%

Avg Strategy
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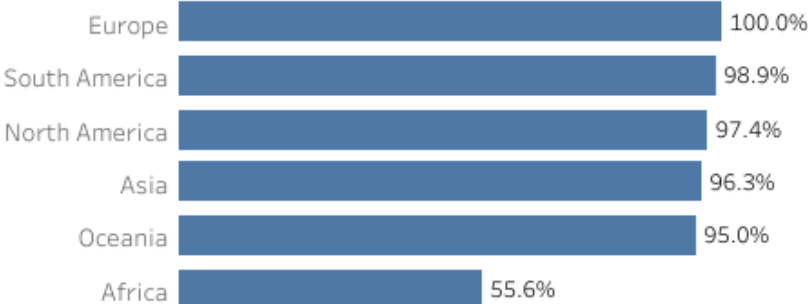
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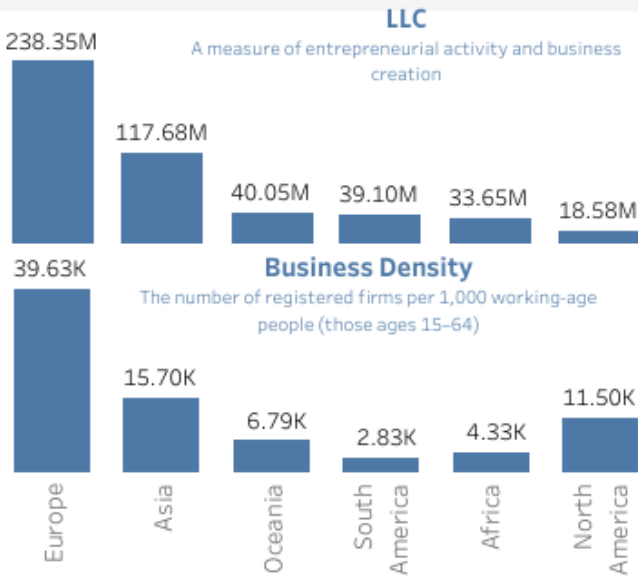
Continent and % education expenditure (2021)



Continent and % access to electricity (2020)



Continent, LLC and business density (2006-2020)

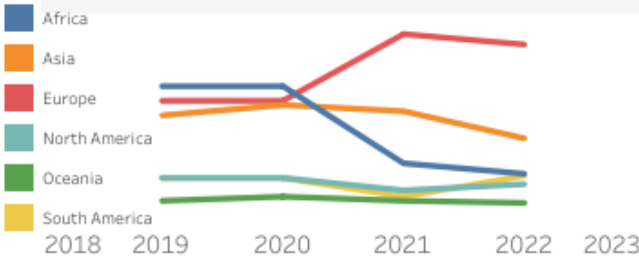


LLC - Register Limited liability Companies

Continent and average strategy implementation score (2022)



Continent and strategy score trend



Unraveling the Challenges of Unemployment in Africa: A Data-Driven Approach

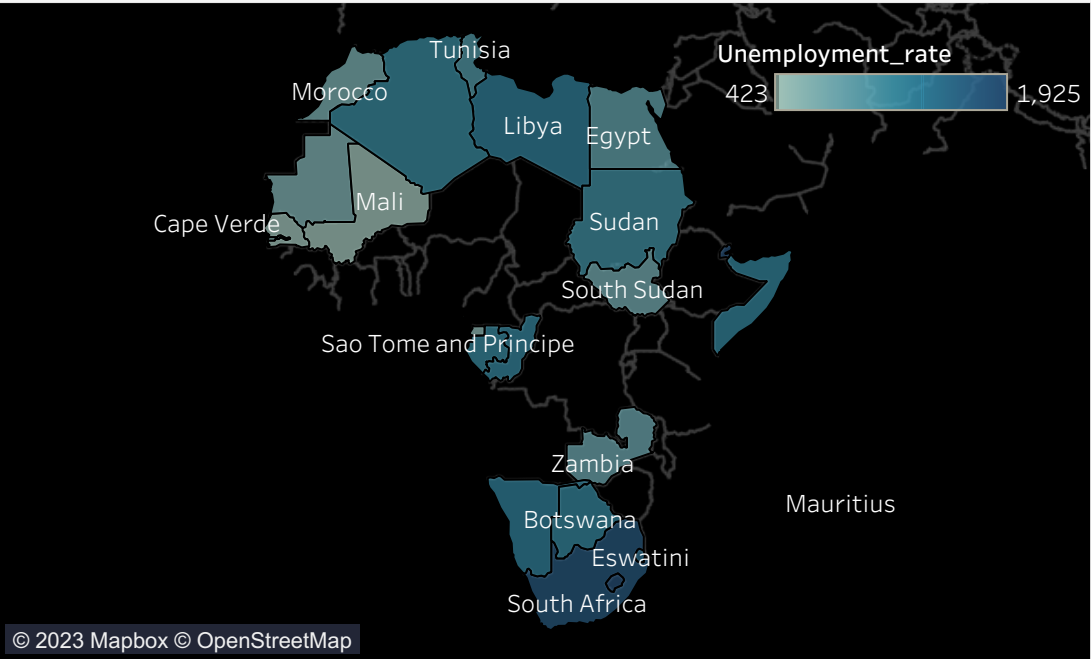
Jimoh, the firstborn in an African family, encountered adversity early on when his father passed away at eleven. Left under the care of his mother, he had to abandon secondary school, taking on menial jobs to support his two sisters and younger brother. Two years later, with modest savings and a small contribution from his late father's brother, Jimoh managed to reenter secondary school, reigniting his childhood dream of becoming a newscaster.

Upon graduating in mass communication from a reputable African university, Jimoh's mother expressed profound gratitude, believing that divine intervention had brought light to their home. However, a decade after graduation, Jimoh found himself still grappling with unemployment, shattering the hopeful vision his mother once held.

This poignant narrative sheds light on the pervasive issue of unemployment in African families, encapsulating Jimoh's resilience amid economic challenges. Despite his qualifications, job opportunities remained elusive, emphasizing the systemic hurdles that hinder the realization of dreams for many on the continent. The story prompts reflection on these challenges and the need for comprehensive solutions to break the cycle of economic hardship.

As the sun sets on Jimoh's prolonged job search, the tale becomes a compelling call to action, urging society to address the root causes of unemployment and pave the way for a brighter future for individuals like Jimoh and countless others facing similar struggles across Africa.

African countries and unemployment rate



Unemployment is a significant problem in African nations that is influenced by various factors such as socio-economic, educational, and policy-related issues. More than one in four young people in Africa – around 72 million – are not in employment, education or training (NEET) (Karkee & O’Higgins, 2023).

Due to several educational, socio-demographic, and economic factors, the young population is more likely to face unemployment in most regions of the world. In 2024, the youth unemployment rate in Africa was projected at around 11 percent (Galal, 2023). South Africa is expected to register the highest unemployment rate in Africa in 2024, with around 30 percent of the country's labour force being unemployed. Djibouti and Eswatini followed, with unemployment reaching roughly 28 percent and 25 percent, respectively (Galal, 2023).

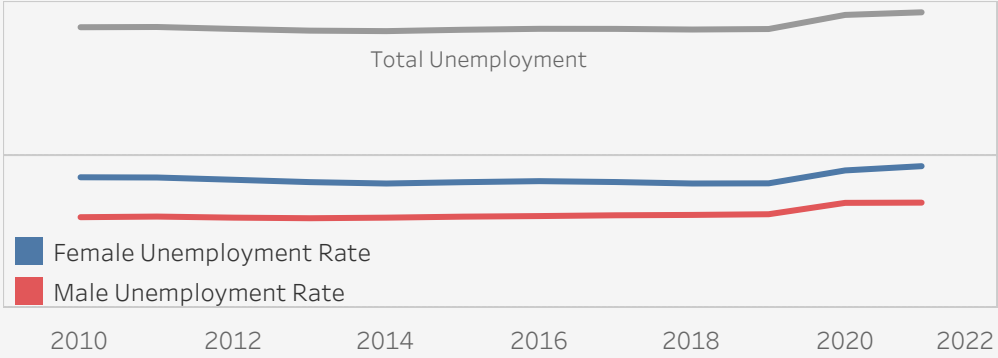
Unfortunately, female unemployment rates are higher than male unemployment rates in Africa, and the implementation of strategies to curb youth unemployment lags behind other continents. This situation is worsened by the inaccessibility of electricity, which is necessary for business establishment and attracting investors. Additionally, low registered limited liability companies lead to poor business density, which in turn results in fewer job opportunities.

This report presents insights from the analysis of five datasets related to unemployment in Africa and provides recommendations based on these insights.

Data source: 10Alytics Global Hackathon
Tools used: Python, Tableau

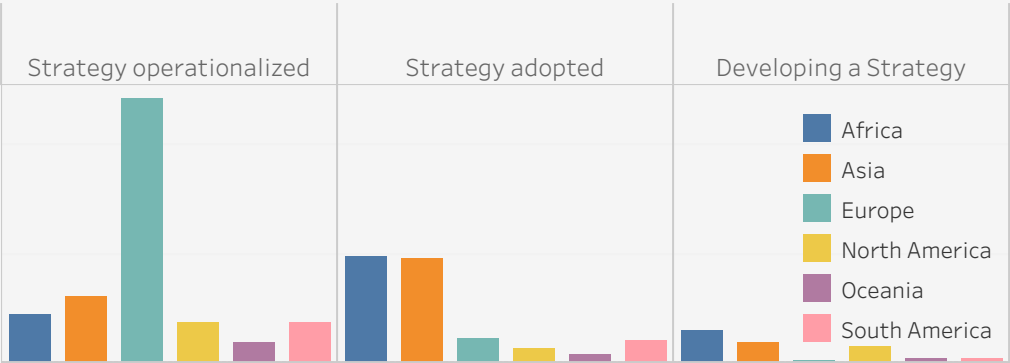
Lesotho and South Africa has the highest sum of unemployment rates from the ye..

Unemployment rate trend in Africa



It has been observed that the total unemployment rate has increased from 2019. The female unemployment rate has also followed the same trend as the total unemployment rate. However, it is interesting to note that the male unemployment rate has only slightly increased from 2020. This could be due to the COVID-19 pandemic, but there is not enough data available to explore this further.

Continent and strategy for youth employment



Europe has the best strategy for youth employment, which is fully operationalized. Africa, on the other hand, ranks third and has a very poor score when compared to Europe. This is a significant concern since Africa has a larger population than Europe. Even though African countries are good at developing and adopting strategies, they face challenges in operationalizing them to reduce youth unemployment rates.

Insights and Recommendations

- Only 55.6% of the African population had access to electricity at the time this data was collected as compared to 100% and 96.3% of their European and Asian counterpart. I recommend implementing policies and programs that will increase Africa’s access to electricity as this is key to attracting foreign investors and business establishments which will yield employment opportunities hence reducing the unemployment rate.
- African countries should enact policies that encourage business establishment and growth. They should provide an enabling environment for both indigenous and foreign businesses to thrive. Their government should provide funding for small business because, from data, only about 34 million business was registered across African countries from 2016- 2022 as against 238 million businesses registered across European countries during the same period. Not to mention that the African population is almost twice of the European population.
- With an average score of 1.8, Africa ranks the lowest in the implementation of strategies for youth employment. (Scale: 0 = no strategy to 3 = strategy operationalized). African countries are usually on the web of developing and adopting strategies with little or no implementation. Therefore, African countries are urged to look into methods of strategy implementation, and ways to monitor and evaluate strategies to ensure that they are fully operationalized across the whole country.
- Africa ranked the highest in education expenditure. However, this factor has little contribution towards the unemployment rate(Pearson correlation coefficient = 0.03).
- There has been a decrease in the unemployment rate in Africa from 2019 which marked the beginning of the Covid-19 pandemic. This could be because many African businesses could not survive the effect of the pandemic leading to their crumbling hence creating unemployment. African countries are urged to learn from their European counterpart and adopt work practices that encourage pandemic situations like remote and hybrid work styles.

Limitations

- The datasets provided were not collected at the same time, hence discrepancies in time. This affected the time series analysis
- Some countries in the datasets had strange names hence making it impossible to classify them into continents