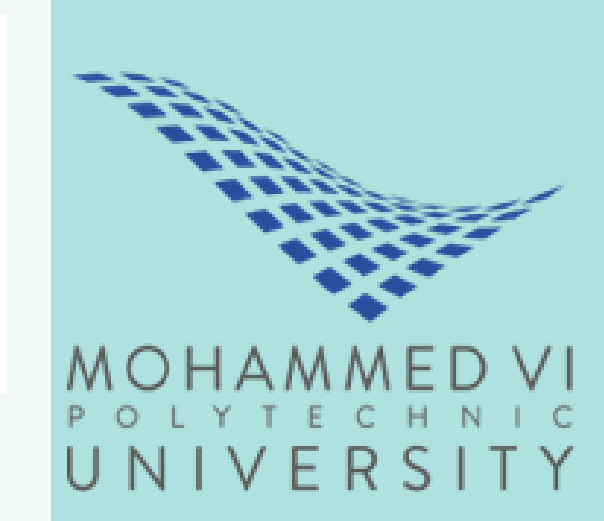


# Enhancing Contract Management through Natural Language Processing(NLP): A Case Study of Three African Countries



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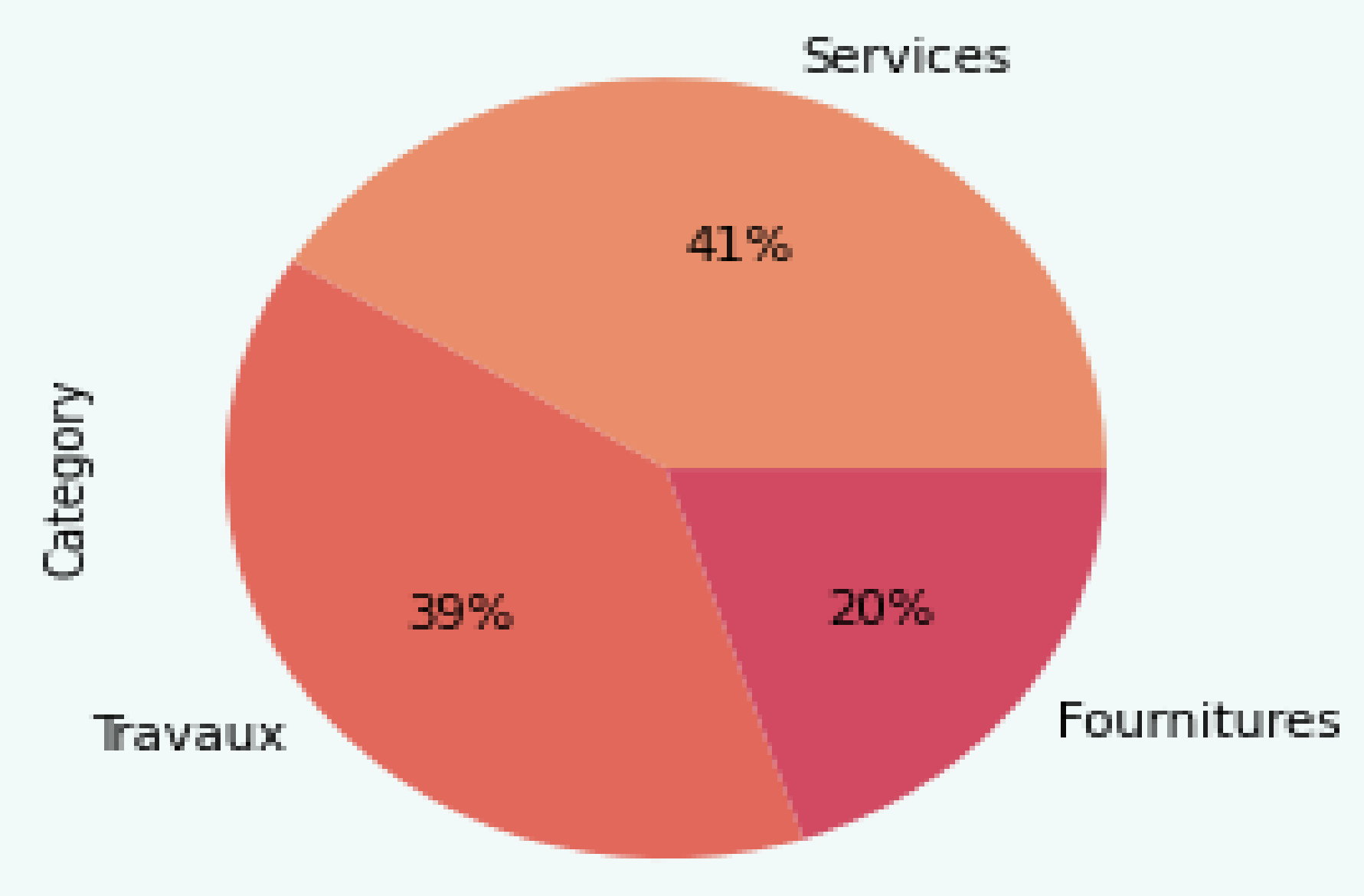
## ABSTRACT

This study investigates the profound impact of Natural Language Processing (NLP) on contract management, revolutionizing the interpretation of government contracts with enhanced accuracy and efficiency. We explore the potential of NLP techniques in aiding the interpretation of contract management in three African countries, namely Morocco, Ghana, and Benin, by extracting data from their public procurement portals and applying NLP models to translate unstructured data into structured data.

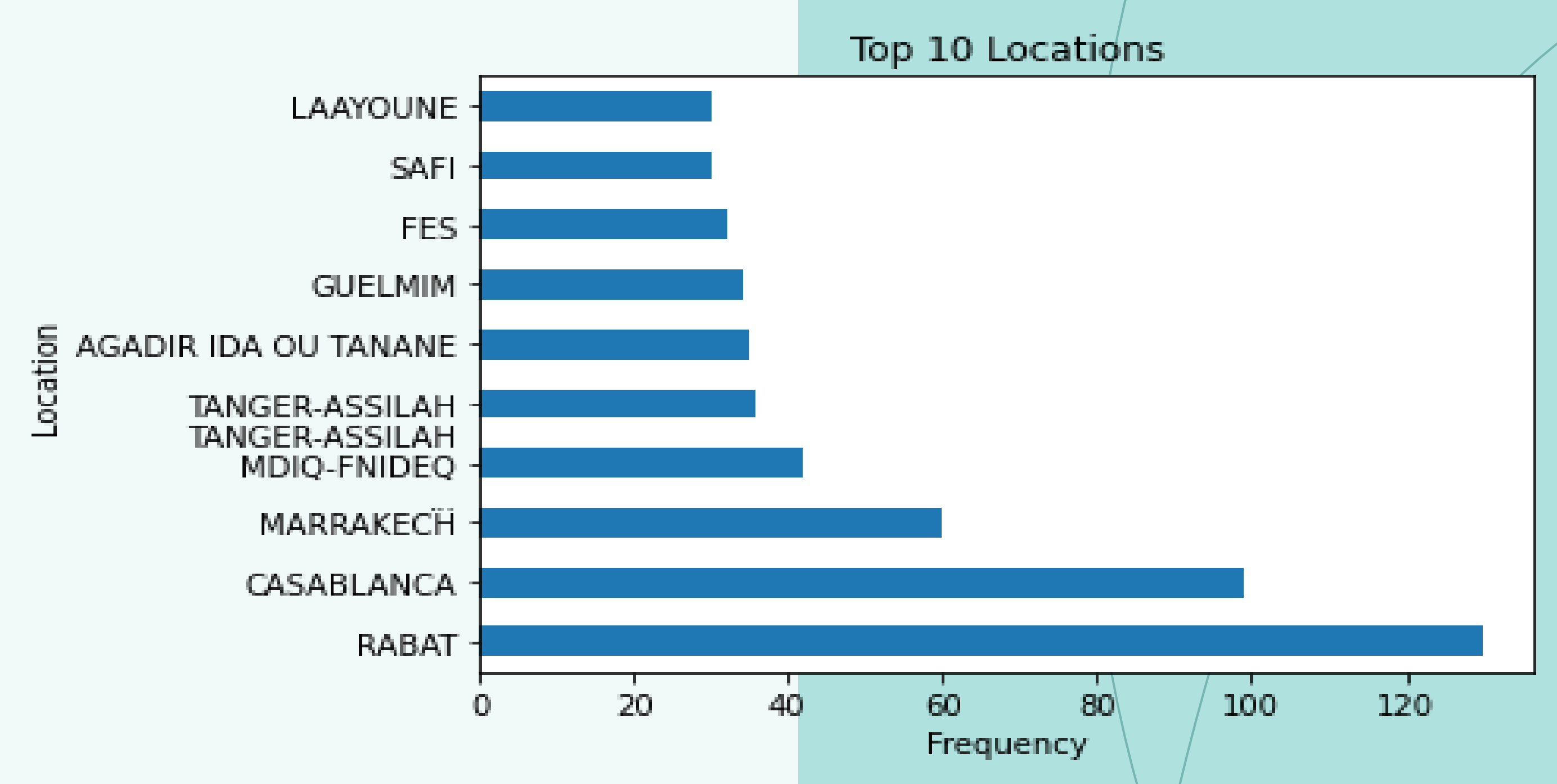
## METHOD

1. Data Extraction: Utilized web scraping tools, including BeautifulSoup and Selenium Webdriver, to extract data from public procurement portals in Morocco, Ghana, and Benin.
2. Language Translation: Employed deep learning modules to translate unstructured contract data from French to English.
3. Keyword Extraction: Leveraged the Gensim library to extract essential information from the translated data.
4. Exploratory Data Analysis: Applied visual techniques to present the extracted structured information for efficient data processing.

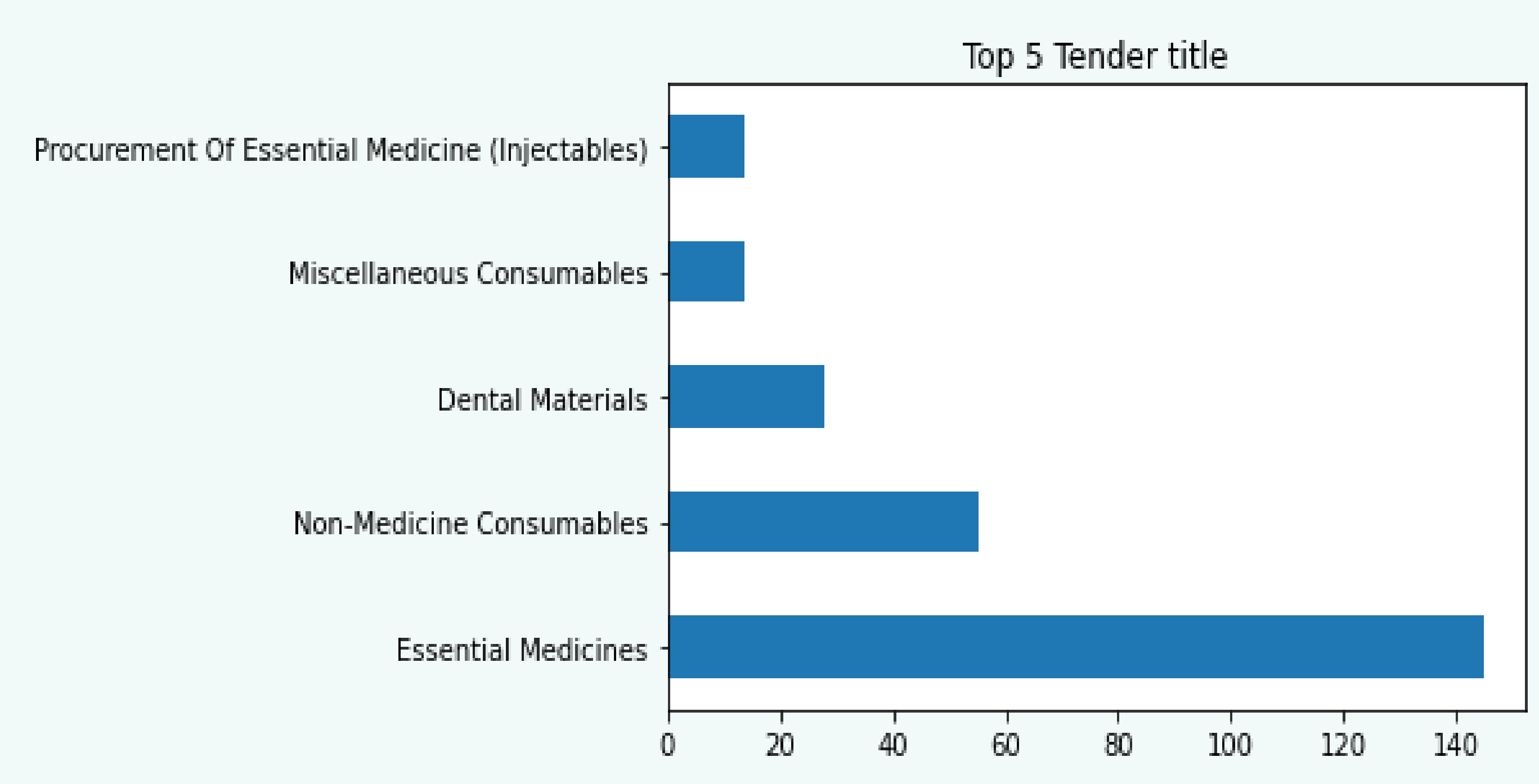
## RESULT



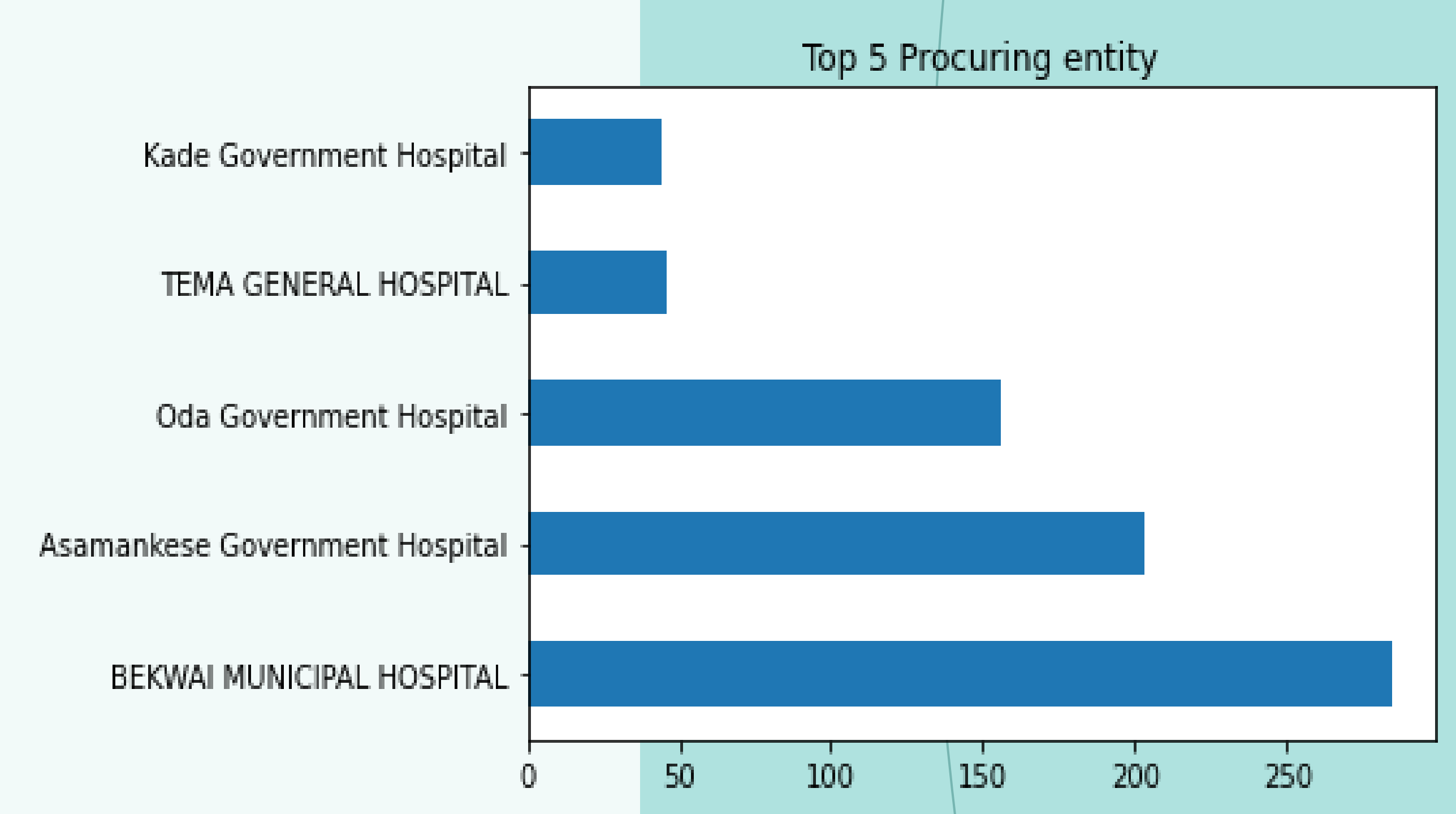
In Morocco , 41% of the contract awarded were for Services while Public Work and Furnitures account for 39% and 20% respectively.



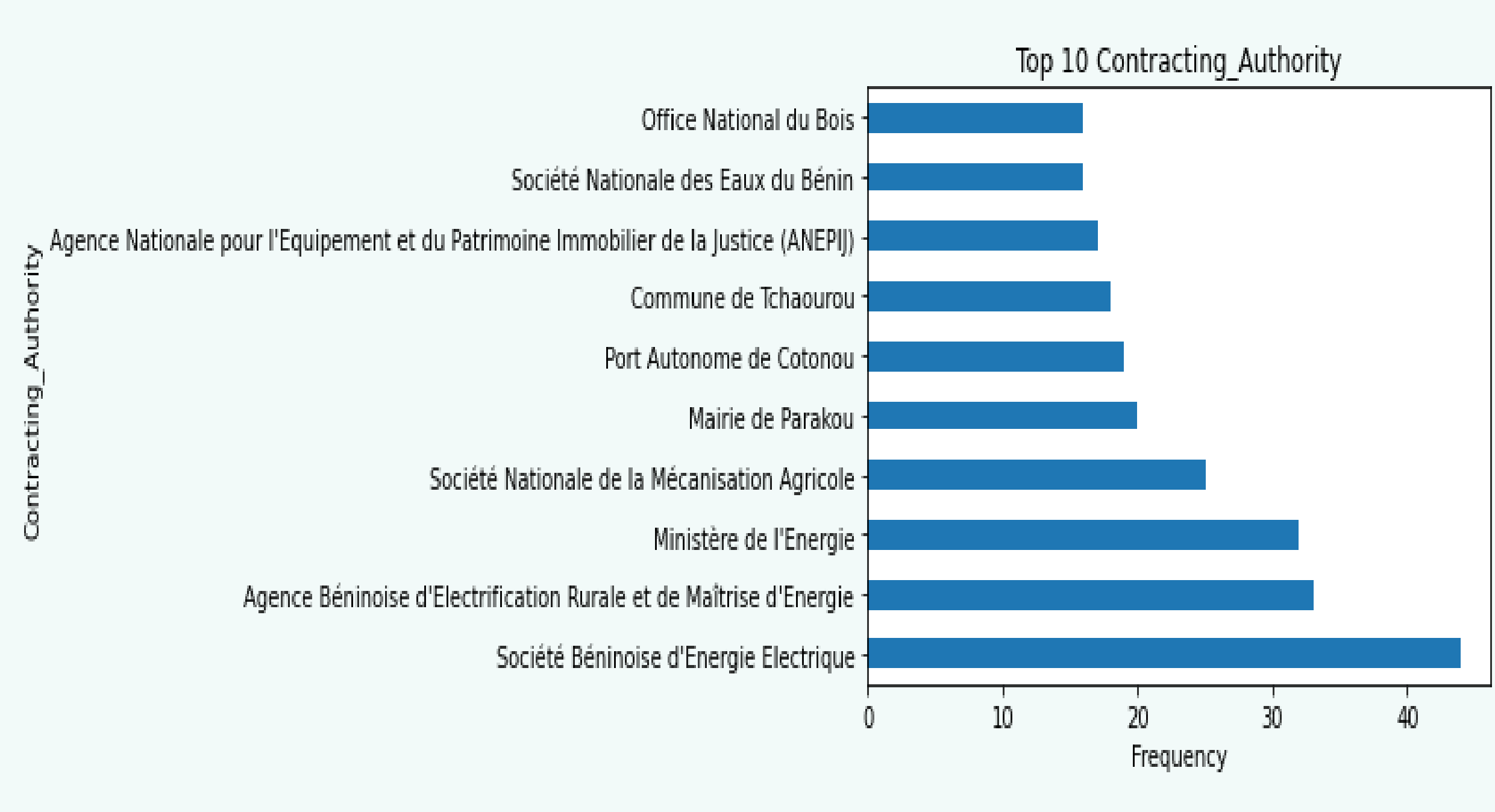
In Morocco, Rabat ,Casablanca and Marrakech accounts for the top three locations with contracts awarded. While Province d'Al Hoceima and Province de Sidi Kacem are least awarded contracts.



Essential medicines accounts for 16.8% of all contracts awarded in Ghana and it can be seen that the contract entries for Ghana is very competitive hence the lower percentages.



Bekwai Municipal Hospital has won the most contracts in the health sector in Ghana



The main authority having launched the calls for tenders is SBEE, the electricity company in Benin. In the top 10 we also find the Port and the agency in charge of agricultural mechanization.

## Conclusion

This research demonstrates the significant benefits of NLP in contract management. It enhances accuracy, efficiency, and transparency, benefiting governments, businesses, and the public. By automating analysis and enabling informed decisions, NLP is a powerful tool for improving contract practices. Beyond cost savings, it promotes transparency and accountability, fostering trust in public institutions. As future research advances NLP applications and addresses challenges, its transformative potential in contract management will revolutionize governance, business practices, and service delivery worldwide.