Jumia vs. Konga iPhone Price Analysis Report

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Executive Summary

This report analyzes iPhone price data scraped from Jumia and Konga, focusing on cross-platform differences, distribution, and price correlation.

Key Findings:

- **Near-Perfect Correlation**: Prices for common iPhone models between Jumia and Konga show a near-perfect positive correlation (0.97), meaning they track each other very closely.
- **Similar Pricing Core**: Both platforms share a very similar median and interquartile range (the core 50% of prices), centered around ₦750,000 to ₦900,000.
- **Jumia's Higher Price**: Jumia displays significantly higher maximum prices and more high-value outliers (above ₦4 million) than Konga, indicating it lists the most premium, expensive variants.
- **Price Growth:** The average price trend shows a non-linear, aggressive increase in price across newer iPhone series, spiking sharply after the iPhone 14 Pro series.

Recommendations:

Consumers seeking standard models can use either platform as prices are highly synchronized. However, consumers seeking the absolute **highest-end, newest models** should compare Jumia's and Konga's listings directly due to Jumia's high-price outliers.

INTRODUCTION

This project aims to provide a data-driven comparison of iPhone prices on Jumia and Konga, two of Nigeria's largest e-commerce platforms. By analyzing price trends and the relationship between the two marketplaces, the report offers valuable insights into the market's pricing strategy and consumer purchasing options.

PROJECT SCOPE

Data Source and Preparation

The data was collected directly from Jumia and Konga using web scraping tools (**BeautifulSoup, Requests**) to ensure real-time relevance. The raw data included product names and prices from multiple listing pages.

The data was cleaned using **Pandas** and **Regex** to:

- Convert all price entries to consistent numeric formats.
- Extract the specific iPhone Series (e.g., iPhone 13 Pro) from the product titles.
- Filter the dataset to include only valid entries for comparison.

Analysis Approach

1. The analysis focused on statistical comparison, correlation measurement, and visualization to highlight key differences and relationships. The five provided

visualizations serve as the core evidence for all findings.

FINDINGS

Price Correlation Between Platforms

The price relationship between Jumia and Konga is extremely strong (***Visual 3: Price Correlation via Heatmap*** and ***Visual 4: Price Correlation Between Jumia and Konga***):

- **High Synchronization:** The correlation coefficient between **Jumia Phone Price** and **Konga** is **0.97**. This near-perfect positive correlation suggests that when a specific iPhone model is expensive on Jumia, it is equally expensive on Konga, and vice-versa.
- **Linear Relationship:** The scatter plot confirms a clear linear relationship, where most data points align closely with the red trend line, indicating that one platform's pricing is highly predictable based on the other's (referencing ***Visual 4***).

Price Distribution and Variability (Boxplot)

Analyzing the Price Distribution of iPhones provides a detailed comparison of the price spread on each platform (***Visual 2: iPhone Price Distribution with Boxplot***):

- Median Similarity: Both platforms show a very similar median price (the red line in the box), suggesting that the price for a typical, mid-range iPhone model is almost identical on both sites (around ₦750,000).
- Similar Core Range: The interquartile ranges (the boxes themselves) are very similar in size, confirming that the central 50% of products are priced within the same window.
- Outlier Disparity: Jumia displays significantly more high-value outliers (individual circles above the main box) and a higher maximum price (the top whisker) than Konga. This indicates Jumia lists a wider variety of the absolute most expensive,

highest-spec iPhones.

Average Price Trend Across Series

The average price trend (***Visual 1: Average iPhone Price Trend Across Series***) demonstrates a predictable, yet aggressively non-linear, pricing pattern across newer releases:

- **Steady Initial Increase:** Prices increased gradually from the **iPhone 6** series up to the **iPhone 13 Pro** series.
- **Aggressive Spikes:** A sharp, aggressive price increase begins after the iPhone 14 series, accelerating significantly toward the **iPhone 17 Pro** (which hits the maximum average price of nearly **₦3.7 million**). This highlights the rising cost of premium, newer technology.

Top-End Price Comparison

A comparison of the most expensive models confirms the outlier behavior observed in the boxplot (see Visual 5: Top 5 Most Expensive iPhones on Jumia and Konga):

- **Highest Price on Jumia:** The iPhone 17 Pro Max listed on Jumia reaches the highest overall price point, exceeding the price listed on Konga for the same model.
- **Konga's Top Model Focus:** Konga's highest price point is also for the iPhone 17 Pro Max, but it is visibly lower than Jumia's peak.
- **Model Availability:** The chart only shows data for the two most expensive models, suggesting the top of the market is currently dominated by the 16 Pro Max and 17 Pro Max series.

CONCLUSION

1. The analysis confirms that iPhone pricing across Jumia and Konga is **highly correlated** (0.97). The vast majority of prices for common and mid-range models are effectively identical, eliminating arbitrage opportunities for standard units.
2. The primary difference lies in the **extremes of the market**: Jumia consistently lists the highest-priced, ultra-premium variants, while Konga maintains a more uniform price ceiling. This suggests Jumia may host more specialized sellers dealing in the most expensive, imported configurations.

RECOMMENDATIONS

Recommendations for Consumers (Informed Purchasing Decisions)

1. Simplify Price Tracking for Standard Models: Given the near-perfect **0.97 price correlation** between Jumia and Konga, shoppers looking for standard iPhone models (e.g., iPhone 11–13) don't need to check both platforms daily. Instead, focus on the one offering **better delivery options, stronger seller ratings, or active promo codes**, since base prices are almost identical.

2. Compare Prices for Premium Models: For newer or high-end models (like the **iPhone 17 Pro Max**), always **compare both platforms** before purchasing. **Jumia's boxplot (*Visual 2)*** shows higher maximum prices and more variation, which means Jumia listings can sometimes be more expensive. Checking the **same model and storage size** on Konga could help buyers save **thousands of Naira** instantly.

3. iPhone 17 Pro Max on Jumia is the Most Expensive Model Listed: The **Top 5 Most Expensive iPhones** chart shows the **iPhone 17 Pro Max on Jumia** priced at about **₦5.2 million**, far above **Konga's highest model**, the **iPhone 16 Pro Max** at roughly **₦2.8 million**.

For **value-focused buyers**, the iPhone 16 Pro Max on Konga delivers **similar**

performance and features at a much lower price, making it the smarter choice.

However, for **premium or luxury buyers** who prioritize **owning the newest technology, top-tier specs, or status appeal**, the iPhone 17 Pro Max remains the **flagship option**, representing the **highest-end offering** available.

Business Recommendations

1. **Maintain Consistent Pricing Across Platforms**
   The strong 0.97 price correlation between Jumia and Konga shows both markets move together. Businesses should regularly review competitor listings to ensure their prices remain aligned with overall market levels.

2. **Compete Through Added Value**
   Because prices are almost identical on both platforms, focus on differentiation through offering better delivery speed, product warranty, or bundle deals to stand out.

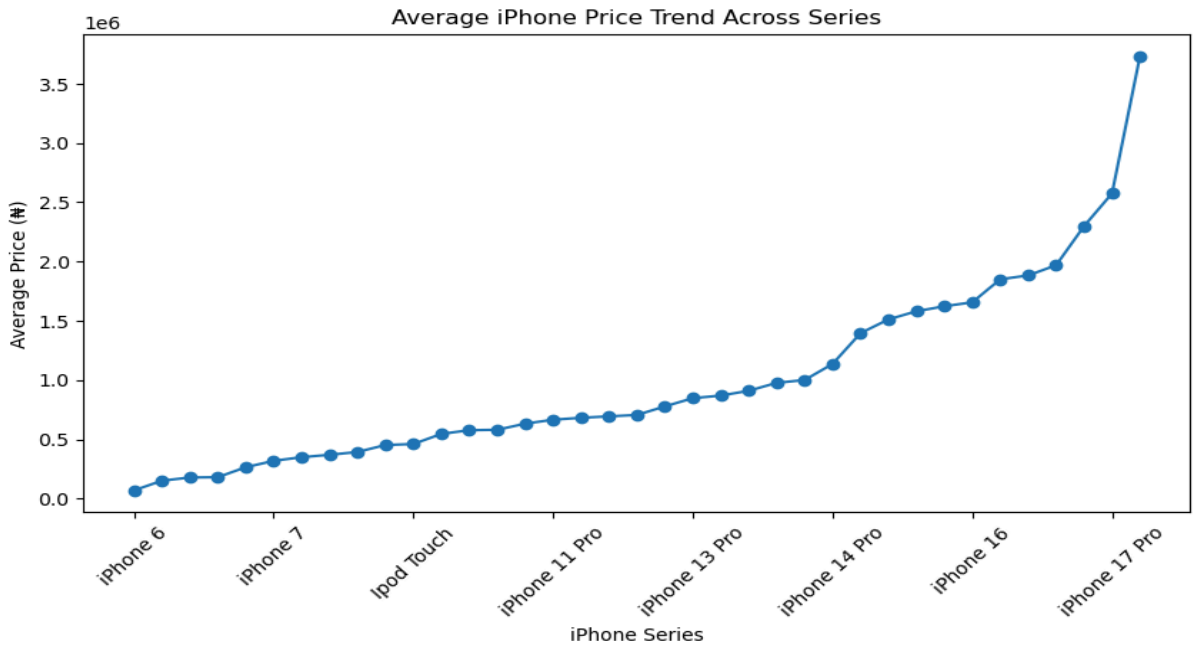
3. **Target Premium Buyers on Jumia**
   The bar chart shows Jumia hosting the most expensive iPhone models (up to ₦5.2M). This suggests Jumia attracts high-end buyers, making it ideal for limited editions or luxury models with higher profit margins.

APPENDIX

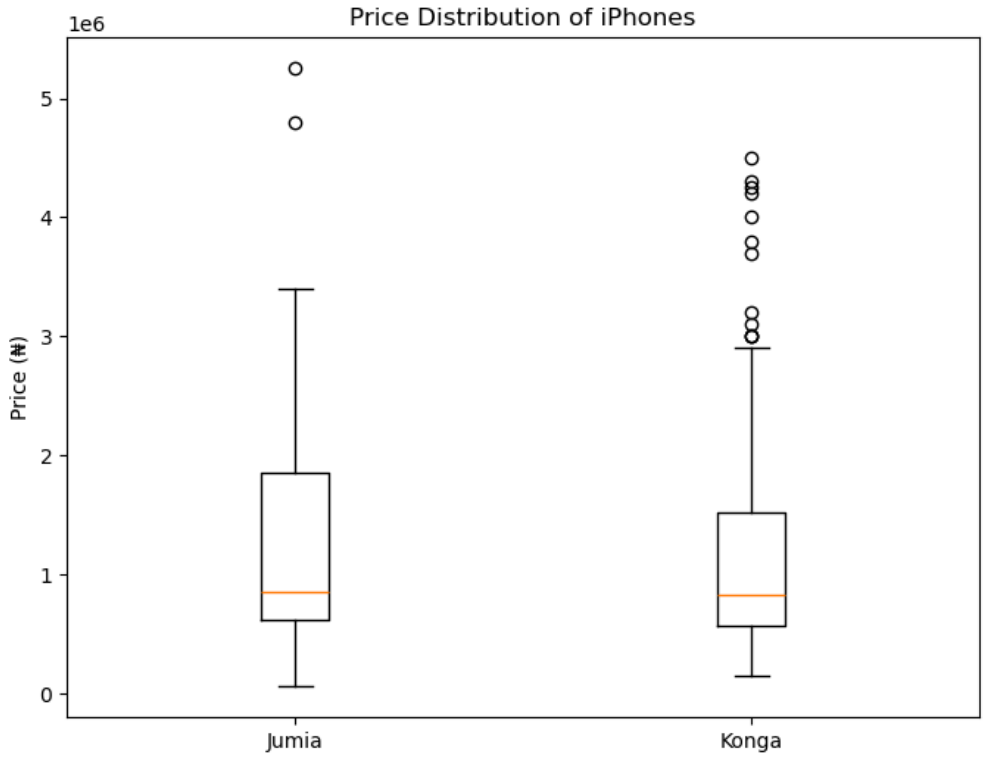
Visualizations

Note: All visuals were produced in Python using Matplotlib and Seaborn, and exported from Jupyter Notebook.

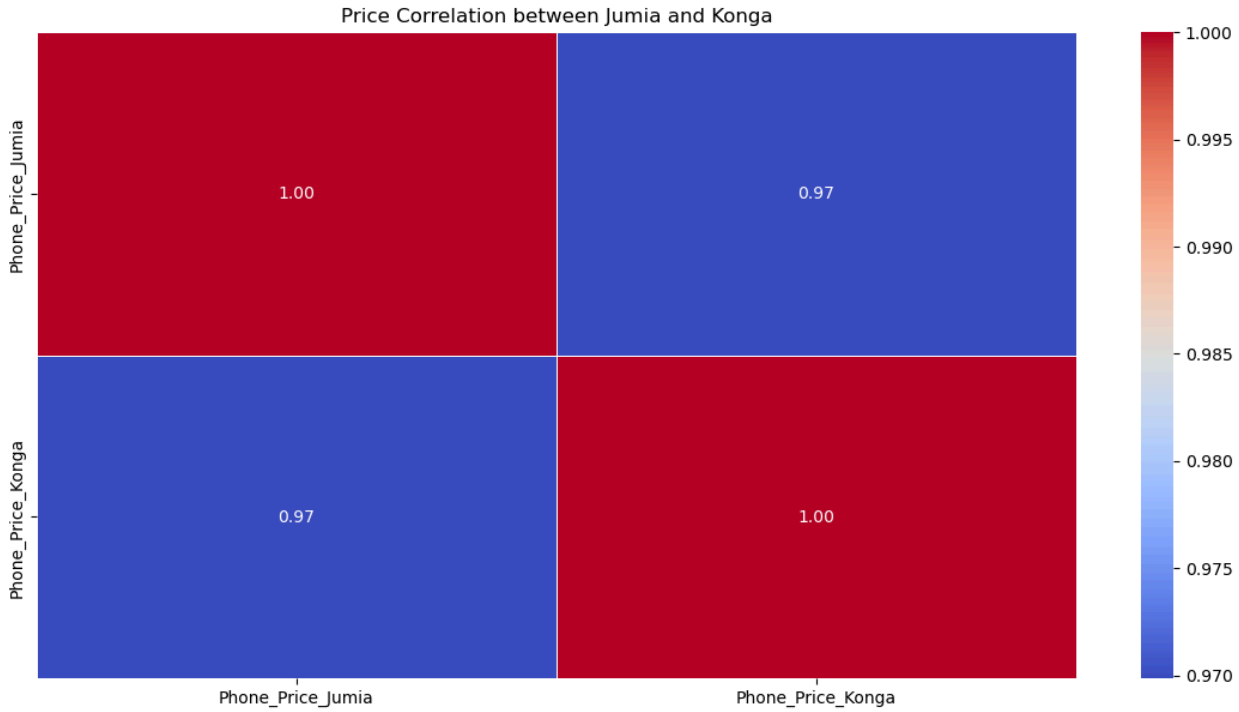
Visual 1: Average iPhone Price Trend Across Series



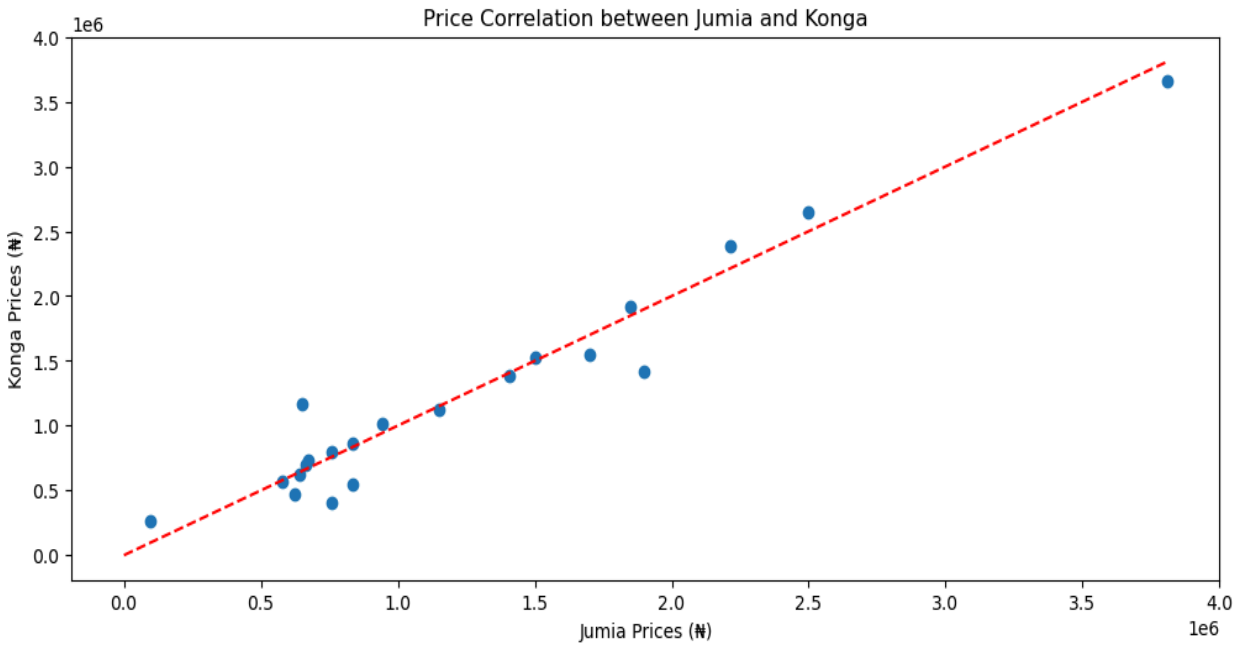
Visual 2: Price Distribution of iPhones (Boxplot)



Visual 3: Price Correlation between Jumia and Konga (Heatmap)



Visual 4: Price Correlation between Jumia and Konga (Scatter Plot)



Visual 5: Top 5 Most Expensive iPhones (Jumia vs Konga)