OPERATION MARKET STORM: A DATA-DRIVEN STRATEGY FOR RIZOSTAR'S WEST AFRICAN LAUNCH.

Role: Data Strategist

Client: AfriFoods Ltd

Timeline: May 2025

Tools Used: Python, Pandas, Seaborn, Matplotlib, Scikit-learn

Dataset: jollofwars_ricesales_dataset

INTRODUCTION

Launching a new product in a saturated market is a high-stakes game, especially when the competition is fierce and the available data is fragmented. That was the challenge facing **AfriFoods Ltd.**, a pan-African food company preparing to roll out its new **premium rice brand, RizoStar**, in **Ghana and Nigeria** by June 2025.

As the appointed **Data Strategist**, my mission was clear: transform a week's worth of messy, incomplete market data into actionable intelligence to drive a confident, evidence-backed market entry.

The dataset was riddled with typos, inconsistent formats, and missing fields, which required extensive cleaning and wrangling. But beneath the chaos, patterns emerged that revealed **brand dominance by city**, **gaps in price tiers**, **customer sentiment by grain type**, and **predictive sales trends**.

This report synthesizes those insights into a robust go-to-market strategy. It answers a fundamental business question:

Where, how, and at what price should AfriFoods launch RizoStar to maximize early adoption and long-term success?

PROBLEM STATEMENT

AfriFoods Ltd. aims to introduce **RizoStar** as a **premium rice brand** across West African markets. However, several barriers must be addressed:

1. **Poor Data Quality:** The only dataset available was collected over one week and contained inconsistent entries, missing prices, and misformatted records.

2. **Established Competition:** Strong incumbents like **Caprice, Golden Harvest, and Uncle Sam** dominate brand awareness and shelf space in key cities.

3. **Limited Customer Understanding:** AfriFoods lacks insight into how **grain type, price, or sentiment** affect sales across cities.

4. **Uncertain Digital Engagement:** Many high-selling brands receive few customer reviews, raising concerns about offline sales vs. authentic engagement.

5. **Compressed Timeline:** Strategic decisions must be made in the weeks ahead of the June 2025 launch.

CORE PROBLEM:

How can AfriFoods confidently enter the West African rice market with RizoStar, using only limited, imperfect data to determine the right city, price point, grain type, and launch timing?

This project aims to solve that problem through structured data cleaning, insightful market analysis, hypothesis testing, and predictive modeling to support a smart, high-impact launch.

OBJECTIVE

The primary objective of this project is to analyze the competitive landscape of the West African rice market, specifically in Nigeria and Ghana, to inform the market entry strategy for AfriFoods Ltd's RizoStar brand. The goal is to:

- Identify city-specific brand performance and customer preferences.

- Evaluate pricing tiers, customer satisfaction, and seasonal demand.

- Detect market gaps and opportunities for premium product positioning.

- Provide actionable, data-driven recommendations for where, when, and how to launch RizoStar for maximum impact and long-term growth.

METHODOLOGY

The analysis followed a structured data science workflow:

1. **Data Collection & Preparation**
   - Sourced sales, review, price, and customer satisfaction data from multiple datasets (Excel sheets).
   - Cleaned and merged datasets, handled duplicates, missing values, and inconsistent formatting.

2. **Exploratory Data Analysis (EDA)**
   - Used data visualization tools to explore trends and relationships.
   - Created bar charts, heatmaps, scatter plots, and revenue projections to uncover patterns.

3. **Segmentation & Comparative Analysis**
   - Analyzed units sold, revenue, and customer ratings across key cities: Abuja, Lagos, Accra, and Kumasi.
   - Compared performance across brands (Caprice, Sunshine, Golden Harvest, etc.) and grain types (Basmati, Long Grain, Local).
   - Identified outliers (e.g., high sales but low reviews) to assess potential offline market influences.

4. **Predictive Modeling**
   - Forecasted RizoStar's monthly revenue in different cities using past performance data of competing brands.
   - Identified top-performing months for sales to guide optimal launch timing.

5. **Strategic Insight Generation**
   - Synthesized findings into targeted marketing and product strategies:
     a. City-specific brand targeting.
     b. Product-grain matching.
     c. Premium pricing opportunity.
     d. Review and customer engagement campaigns.

6. **Recommendation Development**
   - Developed a holistic go-to-market strategy for RizoStar based on data insights.
   - Recommendations include launch cities, pricing, branding, bundling, seasonality, and review incentives.

KEY INSIGHTS & VISUAL STORIES

1. Brand Dominance by City (Units Sold)

The heatmap shows **units sold per brand across 4 cities: Abuja, Accra, Kumasi, and Lagos**.

Insights:
   a. **Caprice dominates across all cities**, especially in Kumasi (15,038 units) and Accra (14,037 units).
   b. **Golden Harvest** is the second-highest in most cities, with strong sales in Abuja (14,456) and Kumasi (10,673).
   c. **Uncle Sam** is a top performer in **Kumasi (12,693)** and **Lagos (10,011)**.
   d. **Tommy Tasty** performs poorly in Lagos (4,899 units), suggesting potential rejection or weak brand presence there.
   e. **Brand preference is quite city-specific**. For example:
      - Accra: Caprice & Royal Stallion lead.
      - Lagos: Sunshine performs best (11,947 units).
      - Kumasi: Caprice and Uncle Sam dominate.
      - Abuja: Golden Harvest leads, not Caprice.

Strategy Based on Brand Dominance Chart:

   a. **City-Level Targeting:**
   - **Double down on Caprice in Kumasi and Accra** – maintain high visibility and loyalty programs.
   - **Boost Golden Harvest marketing in Accra and Lagos** to replicate Abuja's success.
   - **Improve Tommy Tasty's brand presence in Lagos**, investigate why performance is low (e.g., price, packaging, distribution).

   b. **Distribution Optimization:**
   - Reallocate supply to align with demand hotspots: more Caprice & Uncle Sam in Kumasi, more Sunshine in Lagos.

2. Customer Satisfaction by Grain Type
The bar chart shows **average customer satisfaction (1–5 rating)** for different grain types:

   - **Basmati**: 3.02
   - **Long Grain**: 2.99
   - **Local**: 2.83

Insights:
a. **Basmati rice has the highest satisfaction** though the difference is slight.
b. **Local grain has the lowest satisfaction**, indicating a perception of lower quality or consistency.

Strategy Based on Customer Satisfaction Chart:

a. Product Positioning:
- **Promote Basmati as a premium grain** – reinforce quality messaging in advertising.
- **Rebrand Local grain types** with improved packaging, storytelling (e.g., supporting local farmers), or cooking guides to raise perception.

b. Customer Education Campaigns:
- Share cooking tips or benefits of Local grains to improve satisfaction scores.
- Conduct surveys to understand dissatisfaction drivers for Local grain – is it taste, texture, packaging, or price?

3. Customer Reviews vs Units Sold (by Grain Type)
Insight:
- There is a **positive but scattered** correlation between the number of reviews and units sold.
- Each grain type (Basmati, Long Grain, Local) appears across the entire range, but **Basmati and Long Grain** clusters are denser in the **higher sales zones (600–1000 units)**.
- Some products have **high unit sold despite few reviews**, which may point to offline purchases or a lack of digital engagement.

Strategic Implications:
a. **Customer Reviews Matter**: The scatter shows a mild but consistent upward trend. Invest in post-purchase review campaigns to boost trust and visibility.
b. **Target High-Volume Grains**: Focus marketing on **Long Grain and Basmati,** they dominate the high-sales region.
c. **Monitor Anomalies**: Products with high sales and low reviews might indicate **offline bulk buying** or **discount dumping**. Investigate further to ensure brand reputation is aligned.

4. Price Tier Distribution Across Market

Insight:
- The market is dominated by **medium-priced products (57%)**, followed by **low-tier products (43%)**.
- **No representation of premium-tier products**, suggesting either underreporting or a current market gap.

Strategic Implications:
a. **Opportunity in Premium Tier**: Since the market is saturated with medium and low-tier products, a **well-positioned premium offering** like RizoStar could stand out.

b. **Educate the Market**: Introducing a premium product will require messaging that **clearly communicates added value**—grain quality, sourcing, health benefits, etc.

c. **Price Anchoring**: Use competitor medium-tier pricing as an anchor to make RizoStar's slightly higher price appear reasonable (e.g., "only ₦1,000 more for premium quality").

5. RizoStar Predicted Monthly Revenue by City

Insight:

a. Predicted revenues:
   - **Abuja: ₦13.4M**
   - **Kumasi: ₦12.8M**
   - **Accra: ₦11.5M**

b. Abuja outperforms other cities, followed closely by Kumasi.

Strategic Implications:

a. **Top Launch City Option is Abuja.** Though Lagos isn't on this chart, Abuja has the **strongest predicted revenue**, making it a compelling launch site.

b. **Kumasi and Accra Are Still Viable**. Strong performance in Ghanaian cities supports a **dual-country entry** strategy.

c. **Segment Marketing by Region**. Use different promotions in each city. Abuja may need **scaling logistics and retail channels**, while Accra may benefit from **premium positioning and brand storytelling**.

6. Weighted Customer Rating by Brand Across Cities

Insight:

- **Caprice** has the highest average rating in **Abuja** (3.78) and a strong performance in **Kumasi** (3.37).
- **King's Pride** leads in **Lagos** with a rating of **4.05**, outperforming all others.
- **Uncle Sam** and **Tommy Tasty** also maintain stable ratings across multiple cities.
- Brands like **Sunshine** and **Royal Stallion** often fall below 3, indicating customer dissatisfaction in most markets.

Strategic Implications:

- Benchmark product quality and branding against **King's Pride** in Lagos and **Caprice** in Abuja.
- Avoid adopting traits or pricing of lower-rated brands like **Sunshine**.
- Use cities with high-rated competitors to analyze what features resonate with consumers for better market entry.

7. Suspiciously High Sales with Low Reviews (Bar Chart)

Insight:

- Brands such as **Sunshine**, **Golden Harvest**, and **King's Pride** show high units sold but very few reviews.
- Sunshine especially stands out with ~950 units sold, but very low digital feedback.

Strategic Implications:
- These brands may be leveraging **offline bulk sales, promotions, or discounts** to push volume.
- RizoStar should prioritize **customer feedback campaigns** to build authenticity.
- Use this pattern to identify **non-transparent competitors** and avoid perception issues.

8. Total Revenue by City
Insight:
- **Kumasi** leads with the highest revenue, followed by **Accra**, **Abuja**, and **Lagos** (slightly lower).
- The top three cities show relatively **close revenue volumes**, suggesting **multiple strong markets**.

Strategic Implications:
- Launch RizoStar in **Kumasi or Accra** for strong entry, and **scale into Abuja/Lagos**.
- Diversify distribution strategy to capitalize on all four cities instead of one saturated entry point.
- Consider adapting messaging or pricing slightly for each city based on revenue elasticity.

9. Units Sold by Month
Insight:
- Sales **peak in February** (~34,398 units), with strong follow-ups in **March, October, and December**.
- **January and September** show the lowest units sold (~17,650 and ~17,495).

Strategic Implications:
- **Launch campaigns in Q1 or Q4**, where buying is historically highest.
- Plan inventory and promotional spend around **February and October** for maximum returns.
- Conduct market testing in **off-peak months** like September to experiment with product variants or bundles.

10. Suspicious Entries: Low Reviews vs High Units Sold (Scatter Plot)
Insight:
- Brands such as **Sunshine** and **Golden Harvest** appear with **zero or very few reviews but high sales (800–950 units)**.
- Most entries lie in the low-review, high-sale quadrant.

Strategic Implications:
- There may be a **disconnect between digital presence and sales**. RizoStar should ensure both channels are aligned.
- Focus on building **review-to-sale conversion** through post-purchase incentives.
- Leverage verified purchase badges or QR-code review prompts on packaging.

HYPOTHESIS TESTING
• **Correlation Coefficient:** -0.036
• **P-value:** 0.401

Conclusion:
Based on the results:
• Correlation Coefficient: -0.036 (indicating a very weak negative relationship)
• P-value: 0.401 (which is greater than the standard significance level of 0.05)
Since the p-value exceeds 0.05, we do not have enough evidence to reject the null hypothesis. This suggests that there is no significant relationship between the review count and sales volume. Therefore, we accept the null hypothesis, concluding that review count and sales volume are unrelated.

MODELING: REVENUE FORECAST
A Random Forest Regressor was trained to predict future revenue based on:
Price
Grain Type
City
Number of Reviews
Units Sold

MODEL PERFORMANCE SUMMARY
Model Used: Random Forest Regressor
• **R² Score:** 0.995. The model explains 99.5% of the variance in sales, indicating excellent predictive performance.
• **RMSE:** ₦408,021.34
• **MAE:** ₦297,060.52
Since the model delivers strong accuracy and low error margins, we can confidently use its forecasts to guide our market decisions.

THOUGHTS & ROADMAP
Because the data points to Abuja as the most profitable starting point and Basmati rice as the most appealing product type, the launch should be carefully tailored around these insights. Furthermore, pricing at ₦18,000 leverages RizoStar's premium positioning without alienating value-conscious consumers.

Launch Roadmap:
   a. Phase 1: Launch in Abuja to capitalize on strong demand and revenue potential.
   b. Phase 2: Expand to Kumasi and Accra once market traction is achieved.
   c. Continuously monitor competitor pricing to stay agile in the market.
   d. Use AI to flag suspicious reviews, protecting brand reputation.
   e. Build marketing campaigns focused on trust, taste, and premium value.

Tagline
"RizoStar: Premium quality verified by over 3,000 customer ratings. Fair pricing backed by real-time market data. The perfect grain for every West African kitchen." Since this message speaks directly to trust and data-backed value, it should anchor all promotional content moving forward.

CONCLUSION

AfriFoods Ltd. stands at a critical juncture in its growth journey, and the upcoming launch of RizoStar in West Africa presents both a challenge and a high-potential opportunity.

Despite working with fragmented and messy data, this analysis has surfaced valuable insights that cut through the noise, revealing patterns in brand dominance, pricing gaps, customer sentiment, and regional revenue potential.

The data makes one thing clear: success for RizoStar won't come from a generic, one-size-fits-all launch. It must be precise, intentional, and deeply informed by city-level nuances.

Cities like Abuja and Kumasi show strong promise in revenue and sales potential, while grain type preferences and customer satisfaction underscore the need to lead with Basmati and Long Grain.

Furthermore, the lack of digital engagement from competitors presents a white space RizoStar can confidently step into with authentic storytelling and strategic review-generation campaigns.

By combining predictive modeling, market segmentation, and targeted positioning, this strategy empowers AfriFoods to launch with confidence, not just based on assumptions, but on actionable, data-backed intelligence.

RizoStar has the potential to carve out a clear identity in the premium rice category, provided the execution matches the insights uncovered.

RIZOSTAR LAUNCH STRATEGY (RECOMMENDATION)

Based on extensive data analysis across key West African markets, the following phased market entry strategy is recommended for the launch of **RizoStar**, AfriFoods Ltd.'s premium rice brand:

1. Primary Launch Location: Abuja, Nigeria

Abuja is proposed as the primary launch market due to several strategic advantages:

- **High consumer spending power**: Households in Abuja exhibit higher average spending on rice compared to other major cities.
- **Demand for premium quality**: Urban consumers in Abuja show a preference for well-packaged, aromatic, and high-quality rice options, particularly within middle- to upper-income segments.
- **Moderate competitive pressure**: The premium rice segment in Abuja remains underserved, presenting an opportunity for a high-quality brand to gain rapid traction.

Strategic Role: Abuja serves as an ideal pilot city to test product acceptance, pricing, and marketing effectiveness before broader regional expansion.

2. Phase II Expansion: Accra and Lagos

Following a successful introduction in Abuja, expansion is recommended into:

- **Accra, Ghana**: Rising urban incomes and increasing demand for high-quality food products make Accra a strong candidate for regional growth.
- **Lagos, Nigeria**: As West Africa's commercial hub, Lagos offers significant market volume and visibility, though with greater competitive intensity.

3. Pricing Strategy: Premium but Accessible

RizoStar should be positioned at a **20–25% premium** over mainstream rice brands. This pricing reflects:

- **Consumer willingness to pay** for quality and differentiation.
- **Perceived brand value** through storytelling, nutritional benefits, and elegant packaging.

4. Promotion Strategy: Digital-First, Locally Rooted

A multi-channel approach is recommended to drive awareness and trial:

- **Digital marketing** across platforms such as Instagram, TikTok, and YouTube to target aspirational and health-conscious consumers.
- **Influencer collaborations** with trusted chefs, lifestyle creators, and food bloggers.
- **In-store promotions** at premium supermarkets in Abuja featuring tastings, demos, and bundle offers.

5. Feedback Loop & Optimization

Abuja should be monitored as a test market to collect feedback on product reception, pricing sensitivity, and promotional effectiveness. These insights will inform and refine the rollout strategy for other cities.

SUMMARY OF RECOMMENDATION

Launch Phase	Location	Strategic Value
Phase 1	**Abuja**	High-spending, premium-ready consumer base
Phase 2	**Accra & Lagos**	Market volume, regional presence, brand visibility

This strategy enables RizoStar to enter the market with precision and adaptability, laying the foundation for long-term success in West Africa's premium rice segment.