



E-commerce in Algeria and Africa Data Analysis Report

 Data analysis is essential for all business operations, especially since technological advancement is rampant. This Data Analysis Report provides insights, charts and key findings about our e-commerce business in Algeria and Africa from Sep 2022 to January 2024



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My E-commerce in Algeria and Africa Data Analysis Report

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Overview

This report presents a comprehensive data analysis of our e-commerce operations, integrating multiple data sources including Facebook Advertising data, YouCan landing page orders, Yalidine delivery company performance, and CodinAfrica revenue and profit records. The goal of this analysis is to uncover the key factors driving profitability and identify the causes behind periods of unprofitability across different markets.

Our business has experienced a notable pattern: a steady growth in sales, revenues, and profits followed by a sudden and significant decline — first in the Algerian market and later in the broader African market. This study aims to investigate these fluctuations through data-driven insights. By comparing performance metrics between Algeria and other African regions, we seek to determine which factors — such as pricing models, ad costs, product categories, or delivery regions — most strongly influence overall profitability. Ultimately, this analysis will guide strategic decisions on pricing, marketing targeting, and market expansion, helping optimize ad spending efficiency, improve delivery operations, and focus on the most profitable markets and products.



Executive Summary

💡 This data analysis project was conducted to understand the key factors influencing the success and the decline of sales and revenues in our e-commerce operations across **Algeria** and **Africa**. By integrating advertising data, delivery performance, and revenue records from multiple platforms, we investigated the full marketing funnel—from Facebook video ads and copywriting variations to landing page performance and order fulfillment.

Using correlation analysis, regression analysis, and cross-market comparison, the objective was to identify the strengths and weaknesses of our current strategy, reveal the points of failure in the funnel, and determine which market provides the strongest return on investment. The insights obtained through this analysis will guide strategic decisions, improve advertising effectiveness, and strengthen our long-term competitive position.

💡 Our analysis uncovered several performance drivers and bottlenecks across the marketing and operational funnel:

- **Market Comparison**
- The Algerian market demonstrated a higher level of profitability compared to the African market, with stronger ROI and more efficient cost-to-revenue performance.

- **Advertising Funnel Insights**

- Regression and correlation results highlighted that maintaining **trendy video ads** and continuously refreshing our **Facebook page store creatives** significantly improves CTR, landing page views, and purchase rates.

- **Copywriting & Landing Page Performance**

- Weaknesses in the ad description and landing page elements were observed. The data suggests testing **new variations of copywriting styles** while staying aligned with the brand identity. This will help reduce drop-offs between link clicks and landing page conversions.

- **Operational Improvements**

- Customer satisfaction emerged as a critical factor influencing both repeat purchases and long-term revenue. Delivering **high-quality products at an average, competitive price** and improving post-purchase experience will enhance overall retention.

- **Budget Allocation Strategy**

- Based on statistical performance, we recommend allocating **75% of the advertising budget to the strongest regions** and **25% to developing regions** to maximize returns while still creating growth opportunities.

- **Strategic Implication**

- These findings highlight the necessity of continuously optimizing creatives, product selection, and customer experience. This analysis will help the company correct past weaknesses in the marketing funnel and improve the entire e-commerce journey—from ad creation to landing page optimization, product quality management, and customer loyalty development.



Objectives



The primary objective of this report is to identify the main drivers of profitability and the factors contributing to revenue fluctuations across our e-commerce operations in Algeria and the wider African market. Using data collected from Facebook Ads, YouCan landing pages, Yalidine delivery records, and CodinAfrica sales performance, this analysis aims to transform raw operational data into actionable business insights.



The specific objectives of this report are to:

1. **Measure the relationship between advertising performance and revenue growth** — by analyzing the correlation between Facebook ad spend, cost per click (CPC), and resulting sales and conversions.

2. **Compare product pricing strategies** — to determine whether higher-priced or lower-priced products yield better profit margins and overall profitability.
3. **Evaluate regional performance** — by comparing revenues and profits across Algerian and African cities to identify which regions contribute most to the business's financial success.
4. **Assess delivery and operational efficiency** — by linking Yalidine delivery data with sales and return rates to understand how logistics affect profitability.
5. **Identify causes of revenue and profit decline** — by exploring time-based trends and external factors that led to significant drops after periods of growth.
6. **Provide actionable recommendations** — to optimize ad targeting, pricing models, and regional focus for sustainable profit growth.



Scope

This report focuses on understanding the performance dynamics of our e-commerce operations in both the Algerian and African markets. The analysis covers all key business areas that influence profitability — including marketing, pricing, sales, and delivery operations — using integrated data from Facebook Ads, YouCan landing pages, Yalidine delivery records, and CodinAfrica financial performance. The scope of this study is limited to identifying internal factors affecting revenue and profit outcomes while comparing regional differences between Algeria and other African markets.

- **1. Profitability Analysis:** Evaluate the key factors that drive business profitability in Algeria and Africa, including advertising performance, product quality, customer satisfaction, delivery efficiency, and regional coverage.
- **2. Loss Analysis:** Evaluate the key factors that drive business unprofitability in Algeria and Africa, including advertising performance, product quality, customer satisfaction, delivery efficiency, and regional coverage.
- **3. Pricing Model Evaluation:** Assess the effectiveness of different pricing models (low, mid, and high pricing) and determine the optimal price positioning that maximizes profit margins.
- **4. Market Comparison:** Compare revenues, profits, and return on investment (ROI) between Algeria and Africa to identify the strongest-performing regions and guide future market focus.



Methodology

This report is based on a combination of datasets gathered from different parts of the e-commerce business workflow, including Facebook Ads performance data, YouCan orders data, Yalidine delivery records, and CodinAfrica financial data. The Facebook dataset includes metrics such as advertising spend, impressions, clicks, cost per click (CPC), and conversions. The YouCan dataset provides detailed information about customer orders, product quantities, prices, and order dates. The Yalidine dataset contains shipping and delivery information such as region, delivery status, and return data, while the CodinAfrica dataset includes total revenues, costs, and profit margins.

All datasets were collected, cleaned, and merged to create a unified data source suitable for analysis. Data cleaning included the removal of duplicates, correction of inconsistencies in regional names, and verification of product codes and dates to ensure accuracy. Once the data was prepared, an exploratory data analysis (EDA) was performed to identify patterns, trends, and outliers in sales, advertising, and delivery performance.

Correlation analysis was then used to measure relationships between variables such as ad spend, CPC, orders, and revenue, while regression analysis was conducted to assess how marketing, pricing, and delivery factors impact profitability. Comparative analysis was also applied to evaluate differences between the Algerian and African markets in terms of revenue, profit, and return on investment (ROI). The data processing and statistical analysis were conducted using **EXCEL** and **RStudio**. This combination of tools ensured accurate analysis, clear visualization, and actionable insights to support strategic decision-making.



Data Collection

To build a complete performance analysis of our e-commerce operations in **Algeria** and **Africa**, we gathered and consolidated data from multiple sources. Because our activities span several advertising accounts and logistics platforms, the raw data was initially fragmented. The following steps were taken to produce a unified dataset suitable for KPI calculation, profitability analysis, and ROI comparison:

1. Facebook Advertising Data Integration:

Our teams use multiple Facebook Business Manager accounts for campaigns in both Algeria and Africa. Each account exports data separately, so we combined these datasets into a single master file. This merging process allowed us to calculate global advertising KPIs such as CPC, CPM, CTR, Cost per Purchase, and total ad spend across all markets.

1. Yalidine Delivery Data Consolidation (Algeria)

Yalidine imposes a limit of **700 rows per download**, but our operations generated a total of **3,980 orders**. To overcome this limitation, we exported the data in multiple batches and then merged all

Yalidine Excel files into one consolidated dataset. This ensured that all delivery statuses—especially “Livré,” which directly affects realized revenue—were included in the analysis.

1. Additional Order & Revenue Data (Africa)

For the African market, some revenue and order data was not directly available through automated exports. Therefore, we **manually gathered** missing information from platforms such as **CodinAfrica** and the Yalidine dashboard (when relevant). These manually collected entries were added to our master dataset to ensure accuracy when comparing market performance.

1. Unified Dataset Creation for KPI & Profitability Comparison

After combining all advertising, delivery, and revenue files, we built a complete dataset for both regions. This unified structure allows consistent calculation of key metrics—including total orders, fulfilled orders, revenues, product costs, advertising costs, net profit, and ROI—making cross-market comparison between Algeria and Africa reliable and meaningful.



Statistical Treatment

Statistical Treatment

To evaluate the performance of our e-commerce operations in Algeria and Africa, we applied three main statistical methods: **Weighted Average**, **Net Profit**, and **Return on Investment (ROI)**. These calculations help us compare the financial and advertising efficiency of both markets.

1. Weighted Average

We used the **weighted average** to calculate metrics such as the Average Cost per Purchase, ensuring that high-volume products or campaigns influence the final value more strongly.

$$\text{Weighted Average} = \frac{\sum (x_i \times w_i)}{\sum w_i}$$

- x_i = value of the metric (e.g., cost per purchase)
- w_i = weight (e.g., number of purchases or units sold)

2. Net Profit

Net profit shows the financial result after subtracting all product and advertising costs from the total revenues.

$$\text{Net Profit} = \text{Total Revenues} - \text{Total Product Cost} - \text{Total Advertising Cost}$$

This value was calculated separately for Algeria and Africa to measure real profitability.

3. Return on Investment (ROI)

(Using Total Revenues in the denominator)

For this project, ROI is calculated as the proportion of profit generated relative to the revenues collected.

$$\text{ROI} = \text{Net Profit} / \text{Total Revenues} \times 100$$

This formula indicates how much of the revenue remains as profit after covering all expenses. It is especially useful when comparing the efficiency of two different markets with different product prices and order volumes.

Findings

 Our analysis revealed clear differences in performance between the Algerian and African markets, uncovered weaknesses in our marketing funnel, and identified the creative and operational factors that most impact conversions and profitability. Trends in video ads, variations in store creatives, product quality, customer satisfaction, and optimized budget allocation emerged as the strongest drivers of revenue growth. These findings highlight where improvements are needed to correct previous funnel inefficiencies and guide smarter advertising and operational strategies moving forward.

- **Market Profitability**
 - Algeria demonstrated stronger profitability and better return on investment compared to Africa, driven by more stable funnel performance and higher conversion efficiency.
- **Advertising Performance**
 - Trend-aligned video ads and periodic updates to Facebook Page Store creatives showed strong positive correlation with CTR, CPC, and purchase behavior.
- **Funnel Weaknesses**
 - Regression and correlation results identified the weakest points in the funnel as:
 - Ad **copywriting/description**, which underperformed in generating high-intent traffic.
 - **Landing page quality**, which caused significant drop-offs before checkout, especially in the African market.
- **Creative & Copywriting Variation Needs**
 - Using the same copywriting style for long periods leads to creative fatigue. Testing new variations—while keeping the brand identity consistent—is expected to improve landing page views and conversions.
- **Customer Satisfaction Impact**
 - High product quality, reliable delivery, and competitive pricing had a direct impact on customer loyalty and repeat purchase behavior. Satisfied customers contributed significantly to long-term revenue stability.
- **Budget Allocation Strategy**
 - Based on performance segmentation, allocating **75% of the budget to top-performing regions** and **25% to low-performing regions** is the optimal mix for maximizing overall ROI.
- **Strategic Direction**
 - These findings provide a roadmap for enhancing our marketing funnel, optimizing product selection, strengthening customer retention, and improving operational consistency across both markets.

Conclusions and Recommendations

 This subpage contains the conclusion and recommendations based on the data analysis findings.



Conclusion

 The overall analysis demonstrates that the performance of our e-commerce operations is shaped by both market-specific dynamics and weaknesses within our marketing funnel. Algeria emerged as the more profitable market, driven by higher conversion efficiency and more stable customer behavior. In contrast, the African market experienced larger drop-offs, particularly at the landing page stage. The statistical treatment (weighted averages, net profit, ROI) combined with correlation and regression analysis revealed that our strongest growth levers are trend-driven video ads, creative variations, consistent product quality, and customer satisfaction. On the other hand, copywriting fatigue and landing page weaknesses are major contributors to revenue decline. This data analysis provides a clear understanding of the strategic adjustments required across advertising, product selection, customer experience, and operational workflow to achieve more sustainable profitability across both markets.



Recommendations

-  **Optimize Creative Strategy**
 - Continue producing video ads that follow social trends and refresh Facebook Page Store visuals regularly to maintain engagement and prevent creative fatigue.
-  **Revise Copywriting Approaches**
 - Test new variations of ad descriptions and messaging styles while keeping the brand identity intact. This will help reduce funnel drop-offs and improve link-click-to-landing-page conversion rates.
-  **Improve Landing Page Quality**
 - Redesign or optimize landing pages with faster load times, clearer product benefits, stronger visuals, and simplified navigation—especially for the African market.
-  **Prioritize Customer Satisfaction**
 - Maintain high product quality, verify supplier reliability, and ensure a smooth delivery experience. Customer retention is heavily influenced by product satisfaction and after-sales support.

Strategic Budget Allocation

- Allocate **75% of advertising spend** to top-performing regions for maximum return, and **25% to testing and improving underperforming regions** to explore new growth segments.
- **Focus on High-Quality, Competitive Products**
- Ensure products meet customer expectations while maintaining a fair average price. High perceived value directly impacts repeat purchase behavior.
- **Continuous Funnel Monitoring**
- Track KPIs across the full funnel (video engagement → CTR → landing page performance → conversion → delivery outcomes) to quickly detect performance drops and correct them.